INNOVATION FOR EDUCATION

Project Summaries & Learning from Rwanda

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INTRODUCTION

Whether introducing radical new ideas or simply doing existing things in new and better ways, innovation is increasingly seen by governments and policy makers around the world as key to creating more effective and more efficient education systems. Embedding and encouraging innovation across all levels of the education sector is seen by Rwanda's Ministry of Education (MINEDUC) as instrumental to implementing the Education Sector Strategic Plan (ESSP).

> *'Encouraging innovations in the education sector is a central element of MINEDUC's strategic focus. Introducing innovative solutions to address existing challenges in the sector will act as a catalyst for achieving overall sector goals'*
>
> (Education Sector Strategic Plan, 2013/14 – 2017/18)

MINEDUC is prepared to embrace new thinking and new ways of working to become a driver of change and a hub for innovation in education. This is regarded as key to meeting wider objectives, such as improving the quality of education and hence learner competencies through new curricula, teaching methods and materials.

As part of its package of development assistance to the Rwandan government, the UK Department for International Development (DFID) funded 26 Innovation for Education (IfE) projects. Launched in March 2013 and completed in March 2015, the pilot projects cover a range of exciting innovations in early years, primary, secondary and technical vocational education. The projects were initially selected by MINEDUC to fit within the aims of the ESSP and with the ultimate goal of scaling up successful pilots. The topics covered range from initiatives to introduce new ways of teaching and learning including the use of information and communication technologies, developing the skills of teachers, creating leadership and accountability and increasing access to good quality education for all. Although targeted at different areas, each was explicitly aimed at improving student learning outcomes. Some were also aimed at achieving a range of intermediate outcomes including the development of skills and changes in behaviours and attitudes that, it was hoped, would eventually have an impact on student learning.

The projects have now been evaluated by the project teams themselves and externally, by the Fund Manager, Mott MacDonald. The aim of this document is to provide a short summary of each project that will assist MINEDUC in making strategic decisions about the possible future scaling up of the projects. Each summary contains a brief overview of each project including what makes it innovative, its relevance to MINEDUC strategic priorities, key project learning and outcomes. Each summary also contains more evaluative information from the Fund Managers about the conditions for successful scale-up and sustainability for each project, cost implications and suggestions for next steps. A companion document entitled *Learning From Innovation in Education in Rwanda* provides an overview of the key learnings from the 26 projects in terms of outcomes and the process of innovation is also available. It can be read in conjunction with the summaries of the projects contained in this document.

Both documents are also available to download at: *www.mineduc.gov.rw/innovation*

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Emergent Literacy and Maths Initiative (ELMI)

Overview of the innovation

The Rwandan Emergent Literacy and Maths Initiative (ELMI) aimed at more inclusive and effective learning for all pre-school children to better prepare them for entering primary school. The project had two separate components: a first component aimed to improve the quality of teaching of literacy and Mathematics skills in early childhood development (ECD) centres. This included supporting caregivers to create a stimulating, age-appropriate and engaging learning environment. The second component worked with parents of children not able to access formal ECD services and trained them on simple activities they can do at home to support their children's learning. The project also advocated at the national level for the integration of the ELMI approach into the new pre-primary curriculum.

ELMI worked with 2,873 parents and 58 caregivers in 33 ECD Centres. The total budget for the intervention was GBP 618,437.

Grant Recipient
The project was managed by Save the Children, Rwanda.

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What makes it innovative?

ELMI has been successfully implemented in other contexts (for example, Mozambique and Bangladesh) but the approach to early years' education was new to the Rwandan context. A parent outreach initiative in areas where there were no ECD centres was added to the delivery model in Rwanda with the aim of maximising the impact of the initiative for all children. This training of often illiterate parents to support the school readiness of their children through simple, practical learning activities in and around the house was a new way of working in Rwanda.

Relevance to education priorities:

Main Theme: Effective teaching and learning

Sub-theme: Inclusive education
This project was closely aligned to a number of government priorities including 'Rwanda reads', and the promotion of ECD as a key aspect of the ESSP.

Project learning (activity/output to outcomes level)
- The ELMI activities changed the classroom environment in existing ECD centres to be more child-friendly and emphasised learning through play: children sat on the floor, there was the use of thematic corners, use of big books, use of local materials. Children actively participated and were encouraged to discover new things.
- ELMI boosted self-confidence. One of the committee members of a centre in which SC was working mentioned that "You can see the difference between a kid who is in an ECD Centre and a kid who isn't - you can see it from the way they walk on the road. Kids who attend the ECD Centre have less fear and are less insecure."
- Parents were more readily engaged by being trained to do simple activities with their children that can be conducted in and around the house, in the market, etc. For example: learning counting skills by counting objects when doing small purchases, learning sorting skills during food preparation and reading together or talking about pictures in a book. The activity cards provided helped parents easily remember the 'lessons' and what to do.
- The parenting component in particular shows interesting elements of parents' empowerment; parents started to understand that they have something to offer to their children in terms of learning, even if they are illiterate themselves.

Project outcomes and reflection on monitoring and evaluation

The innovation was evaluated through a quasi-experimental comparison of designed treatments: considering changes in learning outcomes (measuring their school readiness) for children in ECD centres receiving ELM intervention (treatment 1) with those who were non-ECD children whose parents received ELM intervention (treatment 2) compared with those with children with no exposure to ECD (comparison 1) and those children in ECD centres but with no ELM intervention (comparison 2). Other quantitative measures, including observation of classroom and home environments, were also collected.

Significant improvements in learning outcomes for literacy and maths were found, for both treatment groups, with the best gains being for those whose parents were trained (treatment 2), though the absolute level of achievement was the same as the ECD centre children whose caregivers experienced ELMI (treatment 1). When children in all the groups enter Grade 1 of primary schools they make less progress, as compared to when they were at ECD centres, and are still working to gain foundational pre-school skills. (The parent treatment group makes the most progress). The implication is that the ELMI parenting component (treatment 2), which is much less resource intensive, produces almost the same gains as the ELMI ECD centre approach (with continuing inputs from parents when children enter primary school) - and is a better option for scale up. A key finding here is that for both treatment groups the interventions are benefiting all families and children equally, regardless of socioeconomic status or gender (this is not the case for the control group; comparison 2).

Few other variables were related to the improvements but the strongest relationship seen was between school environment and child learning from midline was the number of textbooks found in a classroom, which is positively related to learning gains in literacy and numeracy.

The design, conduct and analysis of the study are to a high standard, using learning outcome measures (school readiness) drawing on an internationally used instrument validated and reliability checked for Rwanda results. These provide strong evidence of effectiveness of ELMI. More could have been done to illustrate the validity of the other instruments (e.g. classroom observation).

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Conditions for success

Engagement with parents was a key condition for the project's success. In the longer term, sustainability of improvements in quality teaching for formal ECD services depends upon integration of ELMI into the revised pre-primary curriculum. This project represents a positive case study of planning for such integration with advocacy work and engagement with key stakeholders at the national level featuring as a key component of the project.

The participation of decentralised level government staff, Sector Education Officers in particular, is a critical condition for success, especially for the work with parents. Their participation and support to the parenting work will need to be formalised during scale up.

The ECD centre component benefitted from the input of appropriately skilled VSO volunteers to provide the necessary technical inputs and support to the care-givers.

The project was well grounded in government policy. GoR policies and budget need to be conducive to the establishment and management of ECD centres and/or pre-primary classrooms across the country for the benefits of the ECD centre component to continue.

Scale up and sustainability considerations

Both the centre-based and the parenting components are replicable provided that in the short to medium term TA support from Save the Children (or others) remains and funding is made available.

As far as the centre-based component is concerned: the premise of scale up is that the innovation works in existing centres or pre-primary classrooms, which means funding is required for the running of these centres /classrooms and creating the conditions for ELMI to operate in the centres /classrooms.

For both the parenting and centre-based components, SC has concrete short term plans. Longer terms plans provide different options. For the parenting component the main option is strongly focused on integration within the Ministry of Gender and Family Promotion (MIGEPROF) programme, and SC discussions with MIGEPROF are in an advanced stage. Other options include: (i) working with REB to include parenting activities for school readiness, (ii) working at grassroots level with local leaders in order to sustain the intervention, (iii) establishing cooperatives and/or aiming for delivery through other NGOs.

For the centre-based component, there are scale-up options with regard to (i) incorporation of emergent literacy and maths skills development activities in the new pre-primary curriculum, (ii) adoption of ELM tools and techniques by other NGO programmes and practitioners and (iii) integration of ELM skills in pre-service teacher training.

The system focus is appropriate and moving towards the integration of the parenting component in the MIGEPROF programmes is a promising step. A number of questions may still need to be answered specifically around the extent to which this integration will indeed lead to nation-wide upscaling as well as the extent to which the ELMI approaches, methods, materials and techniques will be reflected in the MIGEPROF overall programme. Enhanced analysis is required to describe the trajectory and scope of this 'mainstreaming' option, as well as the risks associated with that. One of the potential risks could be the fact that a diluted version of ELMI will emerge when it

becomes a component of a wider programme. Moreover, there is a need for a better description of the process to achieve (i) system readiness to take over the management and coordination of ELMI work in the future and (ii) a transitioning of the SC role and the implications in terms of supporting institutional strengthening and capacity building.

For the ECD centre component, the focus on the curriculum and master trainer role seems very appropriate. However, there could have been more discussion about the fact that this was not the model that was tested (although integration with the ECD curriculum was one of the objectives of the pilot) and consideration of the risks and implications for the future. Influencing the curriculum has been part of ELMI's work since the beginning, but implementing a curriculum and supporting teacher training at the highest level is a different proposition to working in the centres with the support of VSO volunteers, as practised in the pilot.

Another question exists about expanded role of DEOs and SEOs in delivery of the scale-up model. They have not been part of the pilot intervention to the same extent and there are questions about their capacity to deliver, both technically as well as the time required to take on such new roles.

Cost Considerations

Three scale up models are discussed in the economic analysis: (i) Scaling up centre based ELM within government supported pre-school classes (GBP 23 per child), (ii) Scaling-up/ replicating ELM model in community ECD centres (GBP 53 per child) and (iii) Scale up of parenting model (GBP 13 per child). Costs have been calculated based on a 2 years period, but it seems that for both components the cost analysis of the next two years can be extrapolated to a more sustainable model as well.

The analysis is clear and the unit costs presented provide an opportunity to compare the parenting with the centre based components. Most importantly the unit costs are also linked to potential impact, which seems to make a strong argument to focus on the parenting component (if a choice needs to be made). The analysis could have been stronger by considering what the implications would be for the government if ELMI is implemented in a GoR context and how the scale-up costs would relate to current GoR budget expenditure. Would it just add to GoR expenditure, or would it replace other costs and maybe have a net benefit because other GoR interventions would become superfluous? Discussion is required of the additional investment necessary to augment/ complement MIGEPROF's overall programme .

Although not discussed in-depth, there still seems to be a need for continued project funding managed by SC. This may require further analysis and clarity.

Immediate Next Steps
- SC to further the discussions with MIGEPROF about integration of the parenting programme in the MIGEPROF programme. Budgetary issues must be identified and clarified, with budget to be made available through MIGEPROF, possibly complemented with external funding. An opportunity that arose more recently (after submission of the scale-up report) is that REB wanted a 'pre-primary' parenting curriculum to accompany the pre-primary teaching curriculum and SC is now talking with them about how this could be rolled out. Both options for integration within Government systems/structures will need to be further explored and possibly operationalised.
- External funding should be used mainly for SC technical support and capacity strengthening, with development partners to consider funding the scale up of the ELMI work, given its proven effectiveness and impact.
- SC to remain in dialogue with MINEDUC/REB as well as MIGEPROF to advocate for policy and budgetary support for the establishment and sustained running of ECD centres /pre-primary classrooms throughout the country.
- SC and the College of Education to discuss options of integrating the ELMI approaches and methods in the teacher training curriculum.
- SC to support the implementation of the new pre-primary curriculum.

Overview of the innovation

This project sought to improve the learning outcomes of learners in Primary 4 (P4), the first year after they have transitioned from learning in Kinyarwanda to English. Language supportive textbooks were developed and used in schools. P4 teachers and trainers at Teacher Training Colleges were trained in related language supportive pedagogical techniques.

The textbooks promoted the use of simple language and sentence structure while also allowing for language development through writing, reading and speaking activities. Kinyarwanda was used in glossaries and structured parts of the lesson. Science, Maths and Social studies authors from all publishers based in Rwanda were trained to develop prototype textbooks and teacher guides. Guidelines for publishers and textbook evaluators were also produced. Textbooks were provided to P4 learners in 8 schools across Burera, Kamonyi, Nyagatare and Ngororero districts and 48 teachers were trained in the use of these textbooks and language supportive pedagogy. There was a total reach of 638 students.

At the national level the project worked with MINEDUC/REB, publishers and the University of Rwanda College of Education (UR-COE) to embed key elements of language supportiveness into textbooks, pre-service teacher training and the wider policy and curriculum.

The total project budget was GBP 418,265.

Grant Recipient
The project was implemented by the University of Bristol in collaboration with the British Council, the University of Rwanda, College of Education and the Rwandan Publishers Association.

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What makes it innovative
The development of language supportive materials to support learning across the curriculum is a new way of working across the continent. This meant that there was also a need to develop an evidence base about textbook readability and their use by low language ability learners. Closer collaboration with publishers as partners rather than just contractors was a progressive development.

Relevance to education priorities:

Main theme Effective teaching and learning;

Sub themes: Skills development.
The project was aligned to the priorities in the 2010-15 ESSP to improve the quality of basic education and address the switch to English Medium Instruction.

Project Learning (output/activity to outcomes level)
During site visits conducted by the Fund Manager (FM) and various discussions held with the project team and other project stakeholders, it was observed that:
- Most classes observed were well-structured with all learners actively involved in reading, writing and/or speaking.
- Writers and editors from all publishers were enthusiastic in being trained in language supportive textbooks.
- The project team engaged with REB throughout the project to influence the change of

textbooks, curricula and policy accordingly.

Attention will need to be given to the following:

- Continuing support is required to broaden teachers' understanding of how to use textbooks effectively as a teaching and learning tool.
- Producing materials will need to be combined with teacher training and ongoing support/mentoring so that teachers improve their practices.
- There is still debate at the national level as to how much, if at all, Kinyarwanda should continue to be used in targeted ways to support English language development. The suggested use of both English and Kinyarwanda in the textbooks may not be fully acceptable to REB.

The 'process of innovation' evaluation points to four classroom issues:

- The effective use of the LaST materials.
- The engagement of teachers in the training.
- Teacher willingness to change their classroom practice.
- Regular observations and feedback to teachers.

Awareness and support of the school leadership is also discussed in relation to the school level.

Project outcomes and reflection on monitoring and evaluation

There has been increased awareness of the need for language supportive pedagogy at national level and language appropriate textbooks within the publishing community and MINEDUC/REB.

The project was evaluated at the school level by baseline and post-intervention student vocabulary and comprehension tests (but these two versions of tests were not comparable), classroom observations and interviews with teachers, head teachers and learners and with focus groups at the national level.

The majority of teachers made positive changes to their teaching practice and used the textbooks effectively with the learners. The main outcome was that learners performed overall 16% better than control schools for tests (project schools mean 63% [N=550] compared with 47% at comparator schools [N=525]).based on the topics in the books, as well as in individual subjects (English language, mathematics, social studies and science). Classroom practice also resulted in a more consistent use of textbooks and other learning materials, more learner talk and more learner-centred activities. Thus showing the combination of better constructed textbooks and teacher pedagogy, can lead to better student outcomes. The detail of the role of each of these in improving outcomes is, however, not answered by the study.

The quality of the evidence is good in terms of the design and rigour of the methodology, although the design could be improved by directly comparable baseline and end-line tests, and larger sample   sizes   for classroom observation.

Conditions for success

The project demonstrated the need for engagement across a range of stakeholders (teachers, head teachers, TTC tutors, publishers and REB) and relied on changes in attitude and behaviours.

Success was also dependent upon teacher capacity within the classroom and publisher capacity to produce the textbooks.

Although the project team engaged with the curriculum review process during project implementation on a continuous basis, a crucial factor for sustained success is related to the process of implementation of the new curriculum, language policy and textbook policy. Government support for language supportive textbooks and pedagogy is required for the main thrust of the project to have a future beyond the pilot intervention, though other elements could be sustained, e.g. the teacher support and feedback mechanisms.

Scale up and sustainability considerations

Already within the lifetime of the pilot intervention, the former DG REB requested the project team to scale up part of the innovation, by: (i) training writers and editors from all publishers; (ii) training REB evaluators, syllabus writers, and examiners; (iii) developing a readability tool specific to the Rwandan context; (iv) training a number of tutors from all TTCs, and; (v) conducting a study on the enablers and barriers to effective textbook use in Rwandan classrooms.

Future scale up and sustainability builds on the lessons of this early scale up and is based on three different models/scenarios. An economic analysis has been made for each of these 3 models.

The first model is a 'light touch' model aimed to complete existing early scale up process. The focus of this model is on sustaining the innovation by providing training for TTC tutors in language supportive principles, textbook specifications and textbook evaluation guidelines. This offers sustainable impact from the greater recognition of the challenges for learners learning in English and an element of language accessibility and development incorporated into key documentation. This model will be completed by August 2015, i.e. during the lifetime of the fund.

The second model is a 'medium touch' model aimed to complete existing scale up plans with support to further embed the innovation into existing curricula and guidelines. This is a higher-intensity version of model 1 which focuses on additional support for the implementation of language supportiveness to establish a more embedded and long-term shift in the way in which language is conceptualized. It will include:

- o Additional support to publishers in the development of language supportive materials.
- o Additional support to textbook evaluators in assessing language supportive materials.
- o Additional support for TTCs to have language supportive pedagogy embedded in pre-service teacher training.

The third model is a 'heavy touch' model with the aim to complete existing scale up plans with support to further embed the innovation into existing curricula and guidelines and additional in-service teacher training. This model involves all the aspects of model 2 with an additional activity to support in-service teachers who would not be benefitting from pre-service training in language supportive pedagogical training. It has been designed using the existing framework of the School Based Mentor (SBM) training programme. Senior SBMs (SSBM) will be trained and then provide training to School Based Mentors (SBMs). SBMs will train and guide the primary teachers in language supportive pedagogy and textbooks.

All three models further build on the engagement and success of the initial scale up phase and can be implemented at relatively low cost. Involvement from Bristol University will be required for all models, with highest involvement in Model 3 (refer also to the last section on next steps). Model 3 involving SSBMs, a new group of stakeholders who will provide training to in-service teachers, will have greatest purchase on the system as it will reach out to both school level as well as the national level. It would have been useful if other implementation modalities were discussed for model 3, alongside the proposed cascade training through the SSBMs, as there are concerns of possible dilution of impact by adopting a cascade training approach.

A central aspect of the thinking about sustainability has been the project's advocacy work with key decision makers including MINEDUC/REB, publishers, College of Education and TTCs from the outset. The foundation has been laid for sustaining the innovation and producing language supportive textbooks among various grades, although the current disagreement about the use of Kinyarwanda in the textbooks is of concern. Another cause of concern is the pace and nature of the process of implementation of the new curriculum, language policy and textbook policy. This may result in the Government 'overlooking' the importance of language supportiveness and inclusion thereof into policies and curricula.

As a consequence, continuous and strong commitment and decision-making from the government is required. At the national level the project will need to capture the willingness of MINEDUC/REB and publishers to engage in issues of language and show commitment to change textbooks and policy accordingly.

Cost Considerations
Model 1 can be implemented without any major additional costs. It builds upon the existing scaling up work, including the advocacy work with MINEDUC/REB and UR-CoE, and it is expected that additional expenses will be covered by MINEDUC and UR-CoE.

Model 2 will cost approximately GBP 60,000. It includes production of prototype chapters among more grades (P5-S4), which can be delivered for an additional amount of GBP 10,700. Costs can potentially be shared among the various publishers (approximately 10). In addition, GBP 5,610 has been reserved for training writers (P5-S4). The remaining cost of GBP 44,000 could be covered by REB/CoE and would include training of TTC's, follow-up visits to TTCs and teaching practice visits.

Model 3 has been budgeted for GBP 494,560 and will include training of 60 SSBMs, 960 SBMs, and 30,720 teachers.

The economic analysis is sound and provides sufficient detail. Model 2 and 3 build on the evidence and cost of the early upscaling. However, the various models assume financial contributions from all parties, which cannot be provided as a 'given' and may require external funding. The option of establishing public private partnerships with publishers could be further explored, with a central role for the Ministry in connecting stakeholders.

Whether the scale up innovation eventually provides value for money largely depends on Rwandan ownership across MINEDUC/REB, publishers, and CoE/TTCs, to take the intervention forward.

Immediate Next Steps
The most important next step will be the continuation to advocate (using the project champions) the core components of language supportiveness within REB and publishers in order to impact on the development of new textbooks and teacher guides as part of the curriculum implementation process.
Other practical next steps include:
- Bristol University to conclude the work on early scale up, including dissemination of report on barriers to textbook project and textbook evaluators' training in 'early scale up', and share this with REB and the technical working group on Curriculum, Materials and Assessment.
- Bristol University, the College of Education and REB Curriculum & Materials Department (CMD) to propose and plan for the language supportive pedagogy training to be written into the teacher training programmes at UR-CoE (model 2, 3).
- Bristol University and REB CMD to continue to work on the integration of language supportive issues in (i) textbook evaluation criteria and (ii) training provided as part of the implementation of the new curriculum (model 2, 3)
- REB with technical support from Bristol University to support in-service teachers in language supportive pedagogical training working within the existing national framework of (senior) school based mentors (model 3) – subject to funding.

Overview of the Innovation

The project aimed to demonstrate that improving Head Teachers' school leadership competencies had a positive impact on pupils' learning outcomes. Three models, and a non-treatment group, were tested in order to be able to determine the most (cost) effective model for Head Teachers' continuing professional development (CPD).

The intervention group consisted of 140 head teachers of primary schools in Rwanda and some of their Sector Education Officers (SEOs). The head teachers participated in a school leadership development trajectory, and were randomly assigned to four groups that received: (A) training and coaching; (B) coaching only (C) training only or (D) no training or coaching at all (see table below). Those SEOs involved in the intervention were trained to provide the coaching required. Training and/or coaching was based on the theoretical 'eight dimensions of successful school leadership' that the project derived from diverse experience outside Rwanda. Head teachers who were trained first identified their own strengths and weaknesses using a contextualized self-assessment tool and, based on these, formulated commitments and a plan of action to achieve them.

In addition to the 140 head teachers, 2,150 teachers and 124,876 benefitted from the intervention. Total project budget was GBP 325,588.

	Head Teacher is trained	*Head Teacher is not trained*
Sector Education Officer is trained and coaches the Head Teachers in her/his Sector	**Group A:** • Both Head Teacher and SEO's are familiarized with theory of effective school leadership. • SEO's are trained to coach her/his (group) of Head Teachers. • Based on a self-assessment Head Teachers formulated resolutions to improve their performance and a plan of action to realise their resolutions.	**Group B:** • SEO's are familiarized with theory of effective school leadership. • SEO's are trained to coach her/his (group) of Head Teachers.
Sector Education Officer is not trained and does not provide coaching to the Head Teachers of her/his Sector	**Group C:** • Head Teachers are familiarized with theory of effective school leadership. • Based on a self-assessment Head Teachers formulated resolutions to improve their performance and a plan of action to realize their resolutions.	**Group D:** • 8 Sectors being control group

Grant Recipient:
The programme was implemented by VVOB from Belgium.

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What makes it innovative?

The theoretical model of 'eight dimensions of successful school leadership' hasn't been tested in Rwanda. The 'intervision method' that uses coaching as a tool to improve school leadership competencies is also a new concept to Rwanda. This included the new role of the SEOs in coaching head teachers.

Relevance to education priorities;

Main theme: Skills Development

Sub theme: Effective Teaching and Learning

The ESSP recognises the inadequate quality of primary education in Rwanda leading to poor learning outcomes. The development of Head Teachers' core competencies for effective school leadership has been identified as one of the main factors for the improvement of education quality.

Project learning (activity/output to outcomes level)

- Head teachers perform a crucial role in the school's learning environment and creating conditions for effective classroom learning to take place. More emphasis on those head teacher competencies that support teaching and learning is required (as distinct from their general coordination and administration responsibilities).
- Initial concerns about potential cultural barriers to a coaching approach proved unfounded: the coaching concept worked well and enthused and empowered the SEOs, while head teachers expressed their satisfaction with the approach
- Large-scale data collection within a limited time frame was considered a real challenge.
- The strict focus on head teachers' individual learning proved challenging and may need to be partially replaced by a stronger focus on group learning and dealing with shared professional problems.
- The project provided a structured environment for SEOs and head teachers to meet with each other and interact around professional issues. This bringing together of decentralised level actors would otherwise not take place and benefits of creating this mechanism go beyond the coaching intervention.

Project outcomes and reflection on monitoring and evaluation

The specific objective of the project was to generate evidence-based information on cost-effective and scalable capacity development approaches to improve competencies in school leadership, leading to a significant improvement in primary school pupils' learning outcomes. Model B, familiarization of SEOs only and then coaching of head teachers by SEOs, appeared to demonstrate the best return on the resources invested.

The experimental groups (A, B and C) referred to above showed significantly better results on head teacher and teacher performance; e.g. reported head teachers progress made on the dimensions of successful school leadership, and teachers' progress made on use of assessment data in the teaching and learning process - in comparison with the control group (D). However, no statistically relevant changes in student learning outcomes, as

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indicated by examination results, were reported. One of the possible explanations is that the implementation period was too short to see an impact on students learning outcomes from an intervention targeting Head Teachers. Just as important, the examination results are aggregated at the sector level thus cannot be attributed to individual schools and hence enable the effect of improvement in school leadership to be detected.

The design of the study is very good but the validity and reliability are inconsistently established for the instruments, and the transparency of the report is poor.

Conditions for success

A very critical condition for success in scale-up is for government (MINEDUC and MINALOC) to provide incentives for decentralised level staff to engage in the implementation of this CPD model, making sure that (i) SEOs are not being drawn into non-educational activities, (ii) coaching activities are written into SEO job descriptions and (iii) GoR budgets cover travel and equipment for SEO's, allowing them to engage in regular coaching sessions.

Although initial external funding could be provided to get scale-up going, a CPD intervention for head teachers is only possible to sustain if fully absorbed by government budgets in the long run.

The project also refers to the importance of DEOs in the institutionalisation of the project. It is unfortunate that this group have not played a major role during the pilot stage.

The School Leadership and Management Unit in REB must be mandated to be able to lead on CPD for head teachers, liaising closely with the College of Education and MINALOC, while being allowed to provide direct leadership to SEOs and head teachers.

There is a need for more systemic approaches to support the coaches, for example through the establishment of a training facility for coaches in one of the existing education training institutions in Rwanda enabling a systemic and sustainable approach to the model.

The project found that providing the conceptual documents and related tools in the mother tongue of all participants (Kinyarwanda) will be beneficial.

Scale up and sustainability considerations

The programme can be scaled up at relatively low cost and the government and development partners seem keen to further develop leadership skills of head teachers to improve learning outcomes. Model B (coaching only) provides the best option for scale up, on condition that the government is providing a structural budget to maintain the system (while funds from elsewhere may be needed to set up the system).

The project has already increased its scope through the start of a new pilot Professional Learning Networks (PLN) programme currently being implemented with VVOB's involvement and funding. Learning from the IfE pilot has informed this new PLN initiative. The testing of this adjusted model at slightly larger scale will need to guide wider adoption in the medium term, with the aim to reach all 4,152 primary and secondary head teachers in the country on a continuous basis.

Involvement of and liaising with the various stakeholders at national level (CoE, REB and MINALOC) will be required for national uptake, with a need for an ongoing quality assurance role for VVOB. The School Leadership and Management Unit of REB will need to be in the lead.

The project highlights that the piloted system of CPD cannot be a replacement for initial training for head teachers (either pre-service or in-service). This prior training should be provided by experts in training school leaders' competences. The innovative CPD processes tested in the IfE project should build on the foundation laid by this initial training (requiring coaching skills more than high levels of technical expertise). Such an initial training for head teachers is currently in the process of being set up by the College of Education and the School Leadership and Management Unit of REB, with support from VVOB.

Cost considerations

Significant cost variations exist for the different pilot models. Average cost per student amounted to £2.07 for group A; £1.25 for group B; and £1.35 for group C. During the pilot intervention, costs for group A and C were higher given the fact that these involved training of all Head Teachers on effective school leadership, while for group B this training was limited to SEOs who provided coaching to Head Teachers. Given the similarity in outcomes of the different models, Model B is the best VfM option.

VVOB conducted a detailed economic analysis for this model to calculate the unit cost of the IfE pilot phase and use that as the basis for costing the scale up. Research costs were deducted and training unit costs were reduced, as many of the training costs in the 'upscaling mode' will be channelled through the government system.

Overall, in a scaled-up programme, average costs per student are relatively low, i.e. GBP 0.21 to set up the system (or GBP 148 per head teacher,/GBP 9.33 per teacher) and an additional GBP 0.03 to maintain it (or GBP 18.82 per head teacher/GBP 1.19 per teacher).

Immediate Next Steps
- Securing external funding for national uptake of the project in an institutionalised mode, based on model B and the new PLN initiative.
- Start-up activities for national scale-up, including
  - o Launch event: inform and commit all stakeholders
  - o Training of Trainers: local coaching experts have to be trained in order to become competent to train groups of SEO's.
  - o Train SEO's: 12 trainers train SEO's to become competent coaches of groups of Head Teachers
  - o SEO's organize monthly group coaching sessions per Sector to practice knowledge and skills gained in the workshop.
  - o Visits to group coaching sessions by trainers to provide feedback on the performance of SEO's
  - o Reflection days for SEOs in each district organized on a quarterly basis to give follow up after the four-day workshops and facilitate transition to institutionalization
- DEO's take the formal leadership role of Professional Learning Networks for SEO's at District level.
- VVOB to continue to advocate for Head Teacher CPD through the Teacher Professional Development Technical Working Group, and as co-chair of the School Leadership Task Force.

Overview of the innovation

The Government of Rwanda (GoR) has hired and assigned School-Based Mentors (SBMs) to support basic education schools throughout the country (each SBM covers two schools). Previously, SBMs had little contact with each other and little access to resources and information beyond their initial training.

FHI 360's Mentorship Community of Practice (MCOP) project used Information and Communication Technologies (ICTs) to enable SBMs to connect with each other to provide peer support and share resources via an online 'Community of Practice' (COP). The project provided high-interest information about Rwanda's education system, and made resources available for mentors to use with teachers to improve English-language knowledge and pedagogical practice in Rwandan classrooms.

The purpose of the innovation was for better school based mentoring to improve the quality of teaching of 25,000 teachers in 1,000 basic education schools across Rwanda.

Major activities included: (i) establishing and organising a library of resources to support mentors; (ii) developing online and mobile channels to distribute these resources and connect mentors with each other; (iii) creating partnerships to subsidize online and mobile access to these channels; and (iv) conducting training and outreach activities for all senior mentors and half of the country's SBMs.

The project was flexible in its delivery, e.g. it responded to the need for greater resource and support for SBMs in their mentoring of teachers in English language.

Grant Recipient:
The project was implemented by FHI 360 from the US.

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What makes it innovative?

Online COPs have been widely used in educational settings globally but were new to the Rwandan context, particularly in the use of mobile and online platforms which showed technological innovation. The learning that had emerged from the experience with a web portal for teachers implemented by FHI in Rwanda previously was used for designing the MCOP intervention.

A large number of mentors were recruited from the region (Uganda, Kenya) and had little contact with each other and little access to resources and information. The COP enhanced access to professional support. Moreover the community has been set up for use as a tool for peer learning and as a channel for communication between mentors, the Rwandan Education Board (REB) and other organizations, which was new to Rwanda.

Relevance to education priorities:

Main Theme: Effective teaching and learning;

Sub-theme: technology
Rwanda's Economic Development and Poverty Reduction Strategy (EDPRS) identified SBMs as a priority to improve the quality of teaching and learning and strengthen teacher proficiency to teach in English. This project sought to support SBMs to more effectively address this priority.

Project learning (activity/output to outcomes level)

- The MCOP platform is frequently used (many SBMs are online for several hours per day), mainly for the following purposes: (i) sharing of information through use of the forum; (ii) interactions with peers and sharing good practices; (iii) accessing the library of documents.
- MCOP SMS teaching tips are considered very useful.
- Many SBMs felt that the information and exchange through MCOP helped them support teachers to improve their teaching practices, including the use of English in schools.

Possible future improvements include:

- Engaging those SBMs to the MCOP platform that did not participate.
- Further enriching the resources available for SBMs by adding elements that reinforce the use of the MCOP portal and lead people to the portal.
- Making better use of the MCOP as part of the existing bi-monthly continuous professional development sessions for SBMs.
- Repackaging the existing content and making the content also available offline.

Project outcomes and reflection on monitoring and evaluation

This is a combination of evaluation designs with (i) a quasi-experimental design (control & treatment groups studied at baseline and end-line) using quantitative surveys and tests for change in knowledge and attitude of SBMs; descriptive studies including (ii) a quantitative analysis of the use of the online COP by SBMS and (iii) a qualitative analysis of their discussion forums to determine the extent and the nature of the online community. This was accompanied by (iv) a number of qualitative case studies of schools examining the role of SBMs, and the views of head teachers and teachers on their work.

Results show that the COP was used by the majority of SBMs with nearly 70% active during the final quarter of the project. The results were inconclusive for the impact on SBMs and teachers in terms of changes in knowledge and views of pedagogy, and SBMs work with teachers (except on individual teachers' English language skills), compared to the control group. There were improved levels of interactions of SBMs with each other (peer learning).

The relative lack of results may have more to do with the fact that the national SBM programme changed focus to English language support, whereas MCOP focused more on pedagogy. The study was rigorously designed and executed but suffered from this change of focus of the national SBM programme.

Conditions for success

The success of this project is dependent upon the existing capacity of SBMs to engage in a COP and/or their desire to develop the ICT skills to do this. It was a project that witnessed significant engagement from this key stakeholder group with SBMs reporting that the COP was time-saving and provided an effective alternative to travelling.

The long-term success of the project depends on the continued role of Senior SBMs and SBMs in the education system and/or how the system will be extended to other professional groups in the Rwandan education system.

Scale up and sustainability considerations

The MCOP is a highly specific intervention targeting a single group of education stakeholders. Currently 500 Mentors (half of the SBMs) are being reached through the online 'Community of Practice'. Reaching all 1000+ mentors through the platform can be accomplished as the technology platform has been established and is functioning well. The project engages closely with REB, in particular the Teacher Development and Management (TDM) Department. They use the new platform for official communications with SBMs and expressed great appreciation and enthusiasm for sustaining it.

Moreover, introducing new COPs for other practitioner groups (such as DEOs and Head Teachers) is potentially viable as REB-ICT is currently in the process of establishing a general Education Portal. REB-ICT is looking to FHI/MCOP for designing, establishing and further expanding this portal.

A notable success of the project is the decision by USAID to provide FHI 360 with scale up funding to grow and sustain the current intervention. The scale up of MCOP has the objective of reaching out to all mentors with additional resources as well as ensuring a wider spread extending the portal to DEOs and Head Teachers, providing them with additional content. In addition, and very importantly, the allocated budget envelope will also build the required capacity of REB-TDM and REB-ICT to sustain the platform in the long run.

The main risk to the programme is of the government not continuing to support the national mentorship programme and this situation should be closely monitored. However, MCOP is sufficiently close to REB and any possible government decisions related to teacher professional development and the position of mentors can be addressed in a timely manner by adjusting the COP programme to address new developments. Under the USAID scale-up, FHI is reframing MCOP to be an in-service teacher training channel. So, if the SBM program is discontinued, MCOP can function as for whichever in-service training group is selected by REB.

Cost Considerations

Reaching all the SBMs through the platform will be cost-efficient as the technology platform has been established already and is functioning well. Further investment will be needed to provide SBMs with equipment (netbook), a portable modem and skills training with the only recurrent cost being the airtime for the modem.

Pilot phase costs reaching 500 SBMs amounted to GBP 660 per mentor per year. FHI's scale up plan indicates that the costs of reaching all mentors in the country would reduce to GBP 250 per mentor per year. Since each SBM supports approximately 60 teachers, this means the cost of the improved mentoring would reduce from GBP 11 to GBP 4.17 per teacher per year.

To also establish similar COPs for other practitioner groups, such as DEO's, head teachers, and teachers will be far more demanding and would involve, in addition to recurrent and equipment cost, additional technical expertise development of new content and training.

The project also recognises that, in addition to reaching all mentors, further capacity strengthening of REB is required to institutionalise and sustain the intervention. Although this may not require a large amount of financial investment it will require intensive advocacy and support work with the Ministry, in particular REB-TDM and REB-ICT.

Immediate Next Steps

- Discuss the scale-up plan and annual work plan with REB and start scale-up implementation through USAID funding
- From the beginning of the scale-up intervention, establish the mechanism to be able to assess the impact of the USAID supported scale up model in supporting all mentors and the impact the COP generates for new practitioners, viz. DEO's and head teachers.
- Continue the dialogue about the continuation of the national mentorship programme and use this dialogue to effectively link the COP intervention with future teacher professional development initiatives.
- Monitor the use of the (expanded) education portal managed by REB.

Early Childhood Care-giver Professional Development and Certification Programme

05

Overview of the Innovation

This project trained and placed unemployed young women, in internships in early childhood development (ECD) centres. The women have a minimum of secondary Grade 3 level of education and the majority of them are girls who dropped out of secondary school. Upon completion of their training, they will be able to work as certified ECD caregivers in socio-economically disadvantaged communities where there is limited access to pre-schooling for children aged 3-5 years. The caregiver professional development package consists of 3 elements: (i) work readiness, (ii) caregiver skills, (iii) functional English literacy. 165 young women were trained in a play-centred approach which focused on children's cognitive development, such as literacy and numeracy skills, and social and physical development which can prepare them for school. The women were then placed in a total number of 56 existing ECD centres in Kigali, Kamonyi, Musanze and Burera as interns.

The budget for this innovation was GBP 686,918.

Grant Recipient:

The project was implemented by Education Development Centre, a US NGO, in partnership with Volunteer Services Overseas (VSO) as well as two national NGOs: the Strive Foundation and SOS Children's Villages Rwanda.

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What makes it innovative?

The project is new to the Rwandan context, with similar programmes having been developed in Malawi, Tanzania, Honduras, Nepal and Bolivia. The project was adapted to be more focused on a child-centred and play-based methodology, making it a pilot for a new way of working.

The combination of the provision of employment opportunities for girls and young women, changing the way ECD delivery takes place in ECD centres in Rwanda is key to the innovation.

An important aspect of the caregiver training programme was the girls' placement in ECD centres as interns. This element of providing opportunities to apply the training as part of the actual training programme is seen as a crucial part of the innovation.

Relevance to education priorities:

Main theme: skills development

Sub theme: gender

The ESSP places major emphasis on expanding the provision of ECD for pre-school children. The project has the potential to improve school readiness of children as they enter P1; an issue highlighted in the 2010-2015 ESSP.

For the trainees, there are clear links with the government priorities for improving the quality and relevance of TVET education for youth employment. The project has a specific focus on employment for young women which government is keen to promote.

Project learning (output/activity to outcomes level)

- The high quality, comprehensive caregiver training curriculum produced during the pilot, following a child-centred, play-based approach, was essential to the success of the project.
- The quality and relevance of the training, and the engaging way it was delivered, generated great enthusiasm amongst the 158 training participants and officials at the decentralised levels.

- Drop-out rates for the young women in the training programme have been considerable (38%) but the reasons for drop out were mostly not related to the training itself. Often the cause was not being able to combine the training with duties/work at home and the resulting loss in household income. This issue will need to be addressed when working towards scale up.
- Involvement of DEOs and SEOs was strong and showed the advantages of gaining and working with government support. In some cases, training facilities were made available by the Sector Education Office free of charge.

Project outcomes and reflection on monitoring and evaluation:

The evaluation design compared an intervention group of unemployed female youths trained by the project with a control group of existing caregivers. The evaluation tested the school readiness of pre-school children in the ECD centres who were cared for by these two groups (tests at baseline and end-line). The impact on the trainees' (and caregivers') knowledge and practices was investigated using questionnaires and observations.

No significant difference was observed between the control and intervention ECD centres regarding pre-school student school readiness, indicating that this project's model of training was just as effective as existing training. The majority (97.5%) of girls who went through the caregiver programme demonstrated good knowledge of ECD and reporting rates for confidence and work-readiness were high, with 73% of trainees strongly agreeing that they had the skills to succeed in the workplace. There was no difference in the control and intervention caregivers in terms of teaching practices, though the intervention group had a wider range, but their practices were not performed so consistently as those of the control group (thought to be related to the latter's experience).

The project has contributed to the employment of some of the unemployed youth trained. Around 5% of girls who completed the caregiver programme became entrepreneurs and established their own ECD Centre and over 50% were employed as a result of the training.

The design of the study was complicated. Comparisons between the two groups at both baseline and end-line was not over an equivalent period of teaching time and the analysis was not sophisticated enough to compensate for this. This, combined with the lack of demonstrable validity and reliability of the measurements, undermines the modest results that the trainee caregivers are at least as good as existing ones.

Conditions for success

This project addressed two key challenges to the Rwandan education system and highlighted the need for the project in the long-term. Reflections on the processes of innovation suggest that conditions for success are dependent upon advocacy within MINEDUC and the Workforce Development Authority (WDA) and within the communities where the ECD centres are based. This is particularly in relation to the benefits of a play-based teaching methodology.

The 38% drop-out rate of the trainees emphasises the need for establishing the right conditions for the girls to complete the caregiver programme (with due consideration given to the socio/economic issues facing the trainees).

A demand-related issue that will need to be carefully monitored is the anticipation of a sustained market for professional caregivers, who are trained by TVET colleges and private training providers.

The main critical success factor for the programme going forward is related to the certification by WDA, which is currently being negotiated, and the related integration in the TVET qualifications framework. It would be the first certified caregiver programme in Rwanda, and certification will open the way for increased employment of girls and young women, and provision of quality service delivery in ECD centres nationwide.

The activities of this innovation cut across a number of sectors and the GoR institutions responsible for these sectors, including WDA for professional education/training, and MIGEPROF and REB both being responsible for ECD delivery. DEOs and SEOs are important players at the decentralised levels. The capacity to link these different actors will be critical for upscaling.

Recommendations for scale up and sustainability

The plan is to scale up and sustain the ECD caregiver training as a one-year programme integrated into certificate one, level three of the Rwandan Technical Qualifications Framework under the TVET system. The training would be delivered at vocational training centres and possibly by other private training providers. The training will meet WDA requirements and is anticipated to include 400 hours of ECD caregiver classroom-based training, 135 hours of Work Readiness training and a three months internship. This means that a number of components of the pilot package will not be considered for scale up, i.e. the provision of ECD materials for the centres and Centre Director and parent training. The implications for sustaining the internships as part of the caregiver training are not fully clear, but there may be a risk of this important component not being continued under the future WDA-certified training programme.

The project has engaged in successful dialogue with GoR stakeholders and made significant progress in positioning itself for scaling up the core of the innovation. EDC rightly indicated the

need for time to test the adjusted package at scale, and be able to further refine the package based on the outcome of this large-scale testing, while building the capacity of the system simultaneously.

Initial agreements with WDA are in place, but there is a need to further plan the process and mechanisms through which (i) certification of students, (ii) accreditation of private service providers and (iii) overall quality assurance will take place.

There is also a need for continued involvement of an external service provider, most likely EDC, to (i) build capacity of WDA to run the programme, (ii) build capacity of TVET colleges and private providers to train future caregivers and to (iii) play an initial advocacy and 'connector' role to make sure that the different parts and actors in the system will be linked and work together. This will include a role for EDC to advocate with MINEDUC and MIGEPROF about the need for a play and child centred approach.

Costing the upscaling/institutionalisation process

No detailed economic analysis has been undertaken by the project. Only a total cost for the pilot intervention of US$ 300 per trainee is provided, which includes a stipend of US$ 100 for the internship.

For the anticipated up-scaling and institutionalisation phase, no costed scenarios are provided. The project recognises that the cost structure in a scale up intervention would be different, and that an outside organization is necessary to continue pushing the agenda and building capacity until the Government is fully capable of rolling out the programme. There is a need for more detailed costing, including costing the need for EDC involvement to 'get the system ready'.

Although during scale up there will no longer be the provision of learning materials to ECD centres, there is a need for GoR (REB/MIGEPROF) to see the importance of this and absorb (part of) the costs. It was reported earlier that these would amount to an initial investment of approximately US$ 3,000 for each ECD centre.

Immediate next Steps

- Conduct a lessons learnt study to inform national scale up and develop a comprehensive economic analysis for scale up.
- Complete the work with WDA on re-alignment of the ECD program to TVET as part of the professional certification process.
- Train a selection of TVET colleges and private training providers on delivering the new certified programme.
- Build capacity of WDA to be the certifying agency and to quality assure the caregiver training programme.
- Advocate with GoR to establish an approved 'minimum equipment/materials list' for ECCD Centres, providing clarity as to who will pay for these materials.
- Advocate with REB and MIGEPROF to adopt a child-centred, play-based approach in ECD centres.
- EDC to play an initial role in connecting the different systemic actors in order to ensure links within the system for a comprehensive approach to ECD professional development, with an objective of handing over this 'connector role' to GoR institutions within a pre-defined time frame.
- EDC to identify funding to be able to play its 'enabler', 'institutional capacity development' and 'connector' roles during the coming years.

Overview of the Innovation

This project supported the set-up of the Rubengera Technical Secondary School (RTSS), an accredited, private technical secondary school for carpentry and wood technology based in Rubengera/Karongi District. The school started operating early in 2013.

RTSS has been established the concept of 'Dual Integrated Technical Training' (DITT). DITT is a professional technical approach to training, where training-on the job in the workshop together with professionals is integrated into the programme of the school with a focus on interaction between trainers and students and combined with actual production of goods for the market. It combines theoretical instruction with practical skills acquisition involving professionally qualified technicians inside the school, which enables students to produce high quality products. The DITT concept is a new approach in Rwanda with its origin in the German dual training system adapted to the Rwandan TVET situation and needs.

The project's objectives were to achieve higher technical and personal skills development for students by applying the DITT concept and using cost-effective appropriate technologies in combination with innovative training (and training materials) and continuous professional development for trainers. This would provide young people with knowledge and skills which are relevant for employment, self-employment or further studies. The project aimed to include more girls in Technical Vocational Education and Training (TVET).

In addition to supporting the carpentry and wood technology units, the IfE grant was also used to establish and run a community pavilion to support local community members to develop their ICT and English language knowledge and skills through participating in non-formal training opportunities.

32 students were involved in the training at RTSS.

The total project budget was GBP 68,880.

Grant Recipient
The project was implemented by "Abaja ba Kristo" (the Community of Protestant Sisters).

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What makes it innovative?
The introduction and piloting of "dual integrated technical training" (DITT) is new to the Rwandan context, based on the dual training system previously successfully used in Europe and other developing countries. The applied learning methodology and close link between learning in technical schools and production for the market have not been practiced before in Rwanda.

Promoting the participation of girls in technical education can be considered as another innovative element of the project. The project has developed a specific approach to mobilizing women to support TVET for their children.

Relevance to education priorities

Main theme: Skills Development

Sub theme: Gender
Developing more interactive teaching and learning methodologies and quality and relevant TVET education at the Post-Basic level are key priorities for the ESSP 2010-15.

Project Learning (activity/output to outcomes level)

- The introduction of the DITT approach has real potential to influence the wider TVET curriculum and system.
- The direct links between skills development, production and marketing serve to highlight the value of good TVET.
- The deliberately small class sizes allow abundant direct support from teachers.
- The project emphasised Training of Teachers (ToT), in particular enhancing pedagogical skills alongside technical skills for the carpentry and wood technology sections.
- An innovation of the project was for students to reflect in groups on their learning and maintain a logbook or journals of their progress. Teachers also engaged in peer observation and review of each other's teaching.
- Finding good and skilled teacher-practitioners for the production unit is seen as a major challenge.
- Sustainability of the project is an issue as the current set up and management is for a large part dependent on the managerial and technical skills of the school's international Technical Director.

Project outcomes and reflection on monitoring and evaluation

Despite the modest scale and exploratory nature of this project, the evaluation has a range of approaches – though not all have baseline and end-line measures. With only one school/community involved, the sample was necessarily very small. The project was evaluated through qualitative and quantitative methods including: student outcomes in course assessments and final public examinations; student enrolment; 'classroom' observation of trainer-student interactions; parental participation (course numbers).

The results indicated good learning outcomes and success, notably in improving the role of women in TVET (both through targeted enrolment and work with other women's events). There was a slight improvement in marks from S4-5. There was an increase in girls' enrolment on the carpentry course (from 3% to 28% of total enrolment) with girls importantly performing as well as boys. The improved interaction created a community of learners and good use of reflection and sharing of experiences of students and teachers. The school has achieved an excellent

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reputation in the region and is known for being well equipped, having good technical teachers and high quality carpentry and wood processing production units.

The modest nature of the project was reflected in the simplicity of the evaluation methodology and input. There is good evidence of the success of the project but it will need a more systematic and larger-scale evaluation to give sound evidence for anything more than a gradual increase in this approach to TVET.

Conditions for success

There was very little written about the processes of innovation encountered by this project making it difficult to assess the conditions for success. Undoubtedly the project focus on a single technical school and the human and physical resources available contributed to the success of the training component and development of DITT.

For continuation of the current school maintaining the same level of quality it is critical to have a strong manager and committed Technical Director with the required technical skills. Training a critical mass of skilled teachers will be another condition for prolonged success.

Community engagement in running the schools needs to be sustained. Mobilisation and commitment of local leaders was important, especially for the successful operation of the community pavilion and the integration of the school with the community, but proved difficult.

If RTSS were to increase its current mandate and have a stronger role to play in training of teachers and transferring good practices into government programming, it will need to continue the existing dialogue and advocacy role with WDA. The TVET minister visited the site and commended the excellent performance. He would like to see the RTSS serving as the model school for the Province. In particular he indicated that the Integrated Polytechnic Regional Colleges (IPRCs) could transfer the teacher training of the wood technology component to the RTSS.
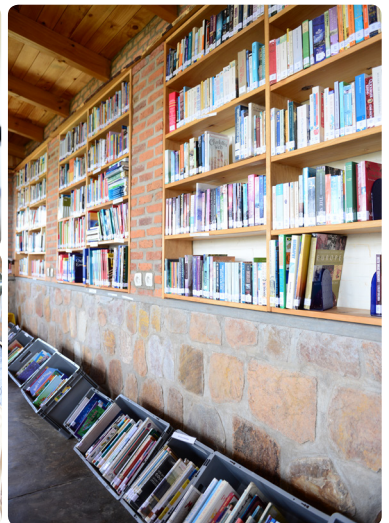
Scale up and sustainability considerations

It is envisaged that the high quality intervention in Rubengera TSS will be sustained and the school will continue to run using the DITT approach. The lifelong learning activities for the community will continue within the school, while community courses other than English and ICT are being considered. As such, the school may serve as a model school and example in the region. External funding from other parties may be required for this.

The project management does not have a focus on scale up and mentioned that "as the school has limited human resources and capacity it won't be feasible thing to think about scaling-up the approach". Although this is well understood, more thought could have been given by the project team on how it could influence wider adoption and institutionalisation, including transferring good practices to WDA. The DITT approach, including the interaction between teachers and students and the linkages between learning and production, as well as the community component, could all inform future government decision-making and programming. Current developments of RTSS playing a role for training of trainers for wood technology in Western Province as part of the general TVET system are very promising, but were not addressed in the scale-up document. Any scale-up utilising public funding should capitalise on this potential for wider adoption of the innovation.

More emphasis could also have been put on ensuring sustainability through maximising the potential of producing for the market. The products coming out of RTSS are of such high quality with identified market demand for these products, that there seems to be real potential for generating a sustainable revenue stream, making donor funding less necessary and/or using the investment to further strengthen or widen the scope of the intervention.

Cost considerations for upscaling and institutionalisation

The project did not conduct an economic analysis as the project management did not consider the intervention to be suitable for scale up for the following reasons:

- The project requires highly skilled/qualified human resources to set up and monitor the project. At least a technical expert would be needed to initiate the Dual Integrated Technical Training (DITT) approach and workshop management in another school where this approach could be implemented.
- It requires major resources (infrastructure design and construction, equipment) to ensure safe and effective management of the system.
- The ownership needs to be identified. The project would not be scaled up if there is not a permanent owner (private, public) who has the capacity (skills, start up and maintenance cost and commitment) to initiate and run the program.

The issue of market revenue streams should have been given more attention in the economic analysis.

Immediate next steps

- Secure the continuation of the DITT approach and implementation at RTSS in a similar way as during the pilot stage. External funding may be required for this.
- Continue the lifelong learning activity for the community within the school and design other interventions based on community's needs.
- Further strengthen the dialogue with the Government, in particular WDA in order to assess RTSS potential for further expansion in the area of teacher training, as well as advising WDA and IPRCs to adopt the good practices and integrate them into their own systems.
- If replication of the approach in other schools proves feasible, this can only happen in a relatively limited number of schools given the capital intensive nature of the intervention. Investment will need to be made in an intensive ToT programme (provided by trained teachers from the project) to ensure that there are qualified trainers to run the approach.
- The quality of the output (people and products) and the tested linkages between skills development and sales suggest that WDA should explore the possibility of PPP with an entrepreneurial investor.

Overview of the innovation

This project implemented the Aflatoun programme offering financial and social education to Rwandan children, and aimed to build the capacities of young people to become responsible citizens and entrepreneurs. This was implemented through a learner-centred teacher training programme drawing on active learning methods. A total of 116 TTC Tutors and 409 teachers were trained. Young people were taught social and financial education, which focused on developing learners' key skills in teamwork, communication, critical thinking and problem solving - thus echoing some of the key competencies required by the new curriculum. The long-term goal of the project was to create jobs for young adults so as to contribute to economic development. Activities included teacher training through TTCs in active learning methods and then piloting the new methods in upper primary and lower and upper secondary schools in four districts (across Western, Eastern and Kigali City Provinces).

Savings clubs were also introduced to the schools in addition to the teacher training component. AMIR supported 541 savings clubs in 75 schools, through partnerships with Micro Finance Institutions (MFIs). 239 savings accounts were opened, with an average of 5,000 RWF of savings per week per school (or 50-100 RWF per week per student).

A total of 55,805 students benefitted from the intervention.

Total project budget was GBP 398,061.

Grant Recipient

The project was managed through collaboration between the Rwandan Association of Microfinance Institutions (AMIR) and Aflatoun, a Dutch INGO, and worked closely with teacher trainers, teachers, learners and parents at the local level.

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What makes it innovative?

This project implemented an educational programme which had been piloted in 90 countries globally but was new to the Rwandan context. The implementation approach was different in Rwanda to other countries as it used teacher training colleges (TTCs) for delivery. The programme partnership between a micro finance institution and an international education NGO was ground breaking in Rwanda.

Relevance to education priorities:

Main Theme: Skills development;
Sub-theme: Effective teaching and learning

The project was closely aligned to the ESSP (2010-2015) priorities for 'ensuring that the post-basic education system is better tailored to meet labour market needs' and developing learner-centred methodologies.

Project learning (activity/output to outcomes level)

- TTC tutors speak very positively about the emergence of a dynamic, inspiring classroom environment.
- Although there are good arguments for focusing on both Child Social and Financial Education (CSFE) as a domain as well as general learner-centred methodologies, the project has not always been clear about how they work together. A more specific emphasis on CSFE with the use of learner-centred methodology within that domain would have strengthened the overall conceptualisation of the programme and make scale up easier to sell.
- The social skills element has been less explicitly addressed than the financial education

component and the project could have been better balanced to meet the different educational objectives.

Project outcomes and reflection on monitoring and evaluation

The innovation was evaluated with a randomized control trial of 250 in-service teachers (125 in each of control and treatment groups) and 1750 students using self-report measures of attitudes and behaviours, along with classroom observation of teachers and interviews, Focus Group Discussions and case studies.

The final evaluation showed that classrooms where the programme had been implemented were more active than at control schools, but no improvement was shown in drop out or examination performance. The results were mixed for learner social skills development, showing increases for learner self-efficacy (a belief in one's competence to tackle new tasks and to cope with adversity), financial literacy, planning attitudes, and savings behaviour. There was no improvement in students' reported pro-social skills, savings attitudes and entrepreneurship.

The study is experimentally well designed, but the validity and the reliability of some of the instruments are not demonstrated so undermining the findings. This is accompanied with a poor level of transparency of the data and the analysis.

In terms of the Theory of Change, there is an effect on the first step in the link to student learning outcomes with some evidence of classroom change (a pre-requisite to improvements in learning). The impact of this might be better if the CSFE is part of the mainstream curriculum, though this might also reduce the change in teaching methods (clubs are less high status). This 'mainstreaming' might also bring the more specific emphasis noted in the second bullet in the previous section.

Conditions for success

There was very little written about the processes of innovation encountered by this project making it difficult to assess the conditions for success. Regarding its scale-up, there is a clear need for either integration of both financial and social education in the school curriculum, although the contribution of AMIR/Aflatoun may be stronger in the former.

Scale-up should also work towards the adoption of active learning methods in the pre-service teacher training curriculum for long-term success.

Scale up and sustainability considerations

Two scale-up models are presented by AMIR:

Option 1 is more institutionalised focusing on the curriculum implementation process.

Option 2 pursues twin pre-service and in-service approaches to eventually bring CSFE training capacity to all TTCs in Rwanda with a CSFE program in 20% of the country's schools. It will use the in-service approach as a 'stopgap measure' to achieve immediate impact, anticipating larger scale impact once the pre-service teachers have gone through their 3-year programme.

There are two issues that need to be addressed, which are relevant to both options. Firstly, the pilot work with savings clubs and cooperation with MFI's are not mentioned in the document, but have also not been mentioned as being taken out of the package. There is therefore a lack of clarity about the proposed models.

Secondly, although a convincing argument is made to use Active Learning Methodology (ALM) there are still some questions about how general the ALM work is and to what extent it is specifically placed within the domain of CSFE. ALM has potentially wider use and offers an entry point to the work in pre-service Teacher Training (where CSFE alone may not have created opportunities to work with TTCs at the time of the start of the pilot). If the focus is on CFSE, then the scale up focus should be on curriculum implementation, particularly the teacher training on the new curriculum – with financial education being one of the cross-cutting areas in the new curriculum. If the focus is more on general teaching methodology, the project should focus on the operationalisation and implementation of the new TDM policy and link up with other IfE programmes operating in the area of teacher training and trying to support the government in supporting new classroom methodology and teaching practices across subjects.

It is recommended to focus on Model 1 as the most urgent and immediately achievable entry point for scale up is curriculum implementation. It will be very important to link with Access to Finance Rwanda, which is already involved in the curriculum process, and which is expected to remain involved during curriculum implementation. The availability of a resource pool of 120 teacher trainers trained in ALM, with a specific focus on CSFE, is a very strong asset to be used for curriculum implementation, and can help to convince REB. AMIR must understand that it is too late now to integrate its own content in to the new curriculum, as the curriculum development has finished, and instead focus on (i) curriculum training and (ii) provision of supplementary teacher and classroom materials supporting the teaching in accordance with the new textbooks.

As a second step, and still in the context of implementing the new curriculum, the programme could have a bigger impact on teacher training after the current round of curriculum implementation training of 2015/2016. Entry into pre-service training may be easier and more manageable in the shorter term, however AMIR's proposal for a temporary focus on in-service training until the first pre-service teachers have gone through the TTC programme is not very convincing. AMIR need to look beyond project expansion to the long-term needs of the education system. What may be more convincing as an argument for support to in-service training is the need to deliver specific CSFE teacher training through the available trained teacher trainer pool, as an integral part of a wider REB TPD programme. This may be welcomed by the government as it will allow them to address teacher capacity needs with specific regard to teaching financial education as part of the new curriculum.

Cost Considerations

The economic analysis provides a detailed overview of what a scale up model would cost, but it is not clear how this links to the proposed scale up options. Scaling up teacher training appears to be in the region of GBP 500,000 over a three year period. There are no unit costs for teachers and students and the economic analysis is also not put in the light of anticipated outcomes. Most importantly, the systemic implications are not sufficiently clear, and there is no indication of what the cost will be of a long-term sustainable CSFE teacher support programme for GoR and partners.

There is no indication of the costs of the savings clubs initiative and it is unclear whether this component has been taken out of the package.

Finally, further thought should be given as to how savings can be made by linking up with other initiatives.

Immediate Next Steps

- Discuss with REB and the Technical Working Group on Curriculum and Materials how AMIR could support the curriculum implementation process, especially curriculum training on the cross-cutting area of financial education
- Discuss with the College of Education and the Task Force on pre-service teacher training if and how the Aflatoun methodology could be relevant for inclusion in the TTC programme
- Discuss with REB and the Technical Working Group on TPD if and how the Aflatoun methodology could be relevant for inclusion in an ongoing REB TPD programme, after the 2015-2016 curriculum implementation training has finished. Focus should be on providing specific add-on support in the area of financial education, as part of a broader TPD programme
- Engage in continuous dialogue with Access to Finance Rwanda, which seems in closer touch with the curriculum than AMIR thus far.

Overview of the innovation

The iWitness in Rwanda project used witness testimony of genocide via internet based resources to promote positive values, increase understanding of genocide and its lasting effects, and enhance empathy with victims and survivors among young people. It aimed to develop critical thinking skills, promote constructive dialogue and prepare young people to participate responsibly in society.

Activities included the development of educational activities at the Kigali Genocide Memorial Centre (KGMC), in-depth professional development workshops for 21 teachers on the iWitness project and its associated teaching methodologies, and the testing of the programme in nine upper secondary school classrooms in Gasabo, Rwamagana, Huye and Musanze districts. Students in pilot schools had access to over 1,300 video testimonies of survivors and other witnesses of the Nazi Holocaust and other genocides, including the Genocide Against the Tutsi.

There is a strong focus on changing classroom teaching methodology, which is applicable beyond the project's focus areas of values, peace and genocide studies. The project embedded the video content within sets of sequenced learning activities, which included elements of peer discussion, both face-to-face as well as through the internet.

43 teachers were trained, reaching 369 secondary students in 30 schools.

The total budget for the intervention was GBP 452,086.

Grant Recipient:

The project was implemented by a collaboration between the Aegis Trust, a UK-based genocide prevention organisation, and the USC Shoah Foundation, which is part of the University of Southern California, US.

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What makes it innovative?

The project approach was new to the Rwandan context, having previously only been implemented in the USA and Australia (although in 'technologically challenged areas' and with young people with limited digital literacy). The project used innovative technology to bring audio-visual testimonies into the classroom and sought to enhance levels of student engagement in the classroom and focus on developing critical thinking skills.

Relevance to education priorities:

Main Theme: Effective teaching and learning

Sub-theme: Skills development; use of technologies

The project promoted science and technology in the classroom and aimed to develop critical thinking and positive values in the curriculum, all of which are highlighted in the ESSP. It also addressed the planned integration of peace education into the new curriculum.

Project learning (activity/output to outcomes level)

- The use of testimonies is highly relevant to the Rwandan school context and also provides an alternative way of teaching sensitive topics, providing more room for student reflection and critical thinking and enhancing the role of the teacher as a facilitator of learning and reflection.
- Close involvement in the curriculum review and curriculum implementation process, to

ensure a link between IWitness content and methodology and the new curriculum, has strengthened the relevance of the project and its chances for scale-up.

- Initial project activities took place in the KGMC and a number of Kigali-based schools with good technology facilities and internet access. Later during the pilot the project also entered schools in less technologically advanced areas, but the success of the use of technologies within these schools was not as clear as in the first two phases. There were technical challenges, however teacher and student feedback, and positive learning, indicates that the opportunity outweighs the technical challenges (power outages and bandwidth).

- An interesting and unanticipated benefit of the project was that teachers and students felt that the programme also helped them with improving their English, particularly through the use of content that combined English and Kinyarwanda.

Project outcomes and reflection on monitoring and evaluation:

The project was evaluated using a quasi-experimental design (control and treatment groups investigated at baseline and end-line), though with small sample sizes (9 schools). The main outcome measures for teachers and students are based on self-reported surveys. Other data included content review and analysis, interviews and focus groups.

The findings showed that teachers reported positive gains related to all of their learning outcomes and some of the student outcomes were positive. Student interviews suggested the fostering of positive values the demonstration of empathy and tolerance in response to the testimonies.

The study was carefully conducted and reported showing good transparency. The main problem is the lack of established validity and reliability of the outcome measures, particularly as the main outcomes are based on ratings by teachers and students.

Conditions for success

The project's implementation was dependent upon access to high-speed internet and electricity in the classroom as well as learners' individual access to a computer. The sustainability of the project would also be dependent on these factors, although some alternative 'offline' material has been developed. If the government pledge of universal internet connectivity for secondary schools in Rwanda by 2017 materialises, chances for scale up and sustainability will significantly increase.

The correlation of the project's core principles of the use of testimony and the development of positive values with the peace education curriculum has enhanced its chances of success. High levels of political commitment to peace and reconciliation, coupled with the strong involvement of AEGIS Trust and its partners in the curriculum review and implementation process, will indeed support the sustainability of the IfE pilot.

Scale up and sustainability considerations

- AEGIS Trust has three strategies for upscaling: (i) establishing institutional partnerships that will facilitate the embedding of iWitness within other AEGIS programmes (such as the Rwanda Peace Education Programme - RPEP) as well as the programmes of partner organisations, (ii) full integration of iWitness into the KGMC's formal and informal educational programming and (iii) inclusion of iWitness as an educational tool to implement the national curriculum.
- In late 2014, it was announced that the use of audio-visual testimony clips and IWitness educational resources and tools had been approved for inclusion in the new Rwanda school curriculum. It will be important to ensure the actual integration of this content within the context of the curriculum implementation (through teacher training, as part of the curriculum training and beyond, and provision of content/activities for classroom use)
- AEGIS Trust has mainly focused on teacher training for upscaling and aims to integrate IWitness within planned REB teacher training activities. The idea that trained teachers would act as peer educators for other teachers is presented, but not given further substance. It will be important to offer a better understanding of how the teacher support model will work in practice.
- REB's ICT teacher training activities may provide another entry point to support teachers across the country.
- Given the issues faced with internet access during pilot implementation, USC, working with Aegis, has developed new learning object types to address that immediately, specifically offline IWitness content and activities. These activities are available now.
- The AEGIS Trust consortium's scale up strategy needs to have a stronger focus on REB ownership and the various steps that are needed to ensure this. There is a need to 'prepare the system', with a likely role for AEGIS partnership with REB to support this 'system readiness'.
- Greater clarity on the actual scale and growth paths of the proposed costed scale up model is required.
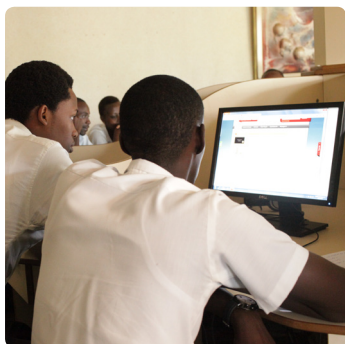
Cost Considerations

As a result of the pilot intervention, there is content and an internet-based platform that is available at no cost to Rwandan students and teachers.

Initial investment to move the project from pilot to wider adoption includes: (i) continued AEGIS staff and partners' involvement; (ii) teacher professional development, including developing teachers as peer educators, and; (iii) investment in technical infrastructure and resources at KGMC to develop it as a centre of excellence and resource development.

A three year program aimed at institutionalising the use of testimony based education, using iWitness on and off line across grade levels and across the country has been proposed. The cost for this 3 years programme is estimated at GBP 2,077,978.

It is to be noted that ↑60% of this budget is reserved for expert inputs from AEGIS Trust and the Shoah Foundation. Although there are clear benefits and cost savings in some of the iWitness activities being embedded in REB teacher training activities, there is also a need to quantify the budgetary consequences for the GoR, especially REB.

Immediate Next Steps

- Capitalise on the positive involvement of iWitness in the curriculum review process and put efforts into supporting the curriculum implementation process by (i) training teachers as part of the ongoing curriculum implementation training, specifically where it concerns the cross-cutting area of peace education, and (ii) find ways to ensure that the iWitness tools and activities end up in the classroom teaching and learning activities as a next step of curriculum implementation.
- As a medium term step the iWitness activities could be embedded in ongoing teacher training both pre-service and in-service, subject to further discussions and negotiations between REB, the College of Education and the AEGIS Trust and its partners. It will be important to provide more depth about the foreseen role for the peer educators referred to above.
- MINEDUC/REB, as the Hub for Innovation, to explore and broker possible relationships with private sector and NGO providers of ICT goods and services.
- AEGIS Trust and its partners to identify funding for a scale up intervention with a major focus on GoR ownership and leadership, with technical assistance activities to prepare REB to take over the activities in the long run.

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Overview of the Innovation

This project was a pilot for the teaching of spatial thinking and aimed to empower young people with improved conceptual and geographic ICT (geo-ICT) technical skills. Teachers were trained in spatial thinking, geo-ICT, and mapping concepts. Students learnt geo-ICTs such as Global Positioning Systems (GPS) to map the local environment surrounding their schools. Spatial thinking curriculum created as part of the programme included reflection on environmental issues relevant to the geographical area of the schools. The project was implemented in upper secondary classrooms in two schools in Huye and Gisagara Districts.

A total number of 10 teachers and 147 were reached by the innovation.

Total budget was GBP 294,712.

Grant Recipient:

The project was managed by the Rochester Institute of Technology (RIT), a US University, in collaboration with the Centre for Geographic Information Systems and Remote Sensing (CGIS) at the University of Rwanda and the Rwanda Environmental Conservation Organization (RECOR).

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What makes it innovative?

This was the first initiative in Rwanda to have a specific focus on the acquisition of spatial thinking skills combined with student learning about community environmental issues.

The project was particularly innovative through its use of geo-ICT technology. It used open source application software and mapping applications which were new to the Rwandan context. The project took advantage of the wide mobile phone network coverage in Rwanda for operating geo-ICTs. Another innovative element is the 'location of learning'. Students went out of their classroom into their communities with mobile devices to acquire and apply spatial thinking skills and at the same time learn about their local environment.

Relevance to education priorities;

Main Theme: Skills development;

Sub-theme: Appropriate technologies

The acquisition of spatial thinking and geo-ICT skills links with Goal 3 of the ESSP, to strengthen the relevance of education and training to the labour market, and specifically focuses on the need for transferable skills, such as communications, ICT, and problem solving. As spatial thinking is a skill developed through life-long learning, the project was also very relevant to ESSP Goal 1 of promoting educational access at all levels. The project's strong emphasis on teacher geo-ICT skill and curriculum training also make the project relevant to ESSP Goal 2 of improving education and training quality.

Project learning (activity/output to outcomes level)

- The practice of 'learning outside of the classroom' adds a new element to learning and is very much appreciated by teachers and students. This makes the learning more relevant and contextualised, as teachers and students reflect on their own environment and the environmental issues within their geographical area.
- Teachers and students learnt how to interact with new technologies and the experience suggests they mastered the technologies relatively easily and quickly.
- The extra-curricular nature of the project activities and the reliance on time spent outside lessons brought challenges in teacher engagement and head teacher support for the project's

activities.
- Although the project had a good focus on integrating new content in the school programme, it initially lacked sufficient emphasis on the methodological implications of this. At later stages of project implementation, teachers were provided with better support to be able to change their practices and 'teach in a different way'.
- The fact that RIT did not have on-the-ground presence in Rwanda had some negative impact on implementation at the early project stages that were overcome via low-cost communication and project monitoring technologies.
- Improving the experimental design to create comparable control and treatment populations would likely have strengthened the outcomes assessment reliability.
- Reliable internet connection availability was an issue.

Project outcomes and reflection on monitoring and evaluation

The evaluation has control and treatment schools evaluated at baseline and end-line but, with only a small number of schools, it is too small to be an experimental design. There are two measures of student learning outcomes: a spatial thinking ability test (STAT) and a concept mapping task. The former gives scores (and sub-scores) for different aspects of spatial thinking ability based on scientific literature. There was also a community mapping exercise to use the software to create a sample map (not a real map), graded in terms of the sophistication of the map representation.

Both treatment (2) and control (1) schools showed an increase in spatial thinking ability, though the percentage increase in score of the control school was higher than the other two (but the absolute score was lower). The GR claims differences among schools relate to their location (e.g. in forestry and agriculture areas). The GR also attributes the increases to dedicated teachers who remained vigilant with the project as, over time, project interaction became more challenging as the intervention was outside normal classroom activity. These explanations have limited data to support them. The concept mapping showed improvement in geo-ICT concept understanding at the two treatment schools (control school did not do it).

The pilot version of the innovation indicates potential but no strong conclusions can be drawn from the study for other schools in Rwanda. Although the spatial ability test is based on an international test with demonstrated reliability and validity, these have not been established for the Rwandan version. The concept mapping measure did have demonstrated validity and reliability.

Conditions for success

The successful implementation of this project was dependent upon the availability of the ICT equipment and access to the open software, and the necessary budget. This will be an even more pertinent scale up issue if existing plans for local production of tablets (and/or more cost-effective wholesale distribution) and nationwide free internet connectivity for schools are not realised, making the expanded project difficult to sustain. If the anticipated developments materialise, however, scale up immediately becomes a very feasible and cost-effective option.

The long-term impact of the project also depends on integration into the curriculum since it was revealed that the pilot project was mainly conducted outside of classroom time.

## Scale up and sustainability considerations

The growth scenario presented by RIT covers 3 phases: (i) 10 schools, 40 teachers, (ii) 40 schools, 80 teachers, (iii) 100+ schools, 200+ teachers. The package is very similar to the pilot model and comprises: tablet technology with GPS; free open source software; hands on teacher training; student activities in the community. The idea of setting up 'schools of excellence' as part of the scale up model is new and has not been tested in the pilot. The potential impact of this remains to be seen and requires additional collection of evidence.

The next step of scale up foreseen by RIT is a realistic first step of adding 10 more schools. This makes sense, but also raises questions about systemic impact (10 schools is a very small number). It will be important to initially focus on schools that have some of the required equipment already. Bigger scale up is then only possible if country-wide connectivity and efficient access and distribution of computing hardware for educational purposes happen.

It would make sense to think about a scenario where RIT finds additional funding to run the next phase with 10 schools in 'project mode', using the time to gradually work towards a fully sustainable model, while supporting implementation of the new curriculum, building the capacity of REB and finding a solution to the major technology question. Wider adoption would come later after this further, larger scale trialling.

In terms of institutionalisation issues, the scale-up document raises some immediate concerns related to the current curriculum implementation process. The new GIS curriculum seems to have geo-ICT included, but the problem is that this may have a primary focus on implementing a GIS handbook and not address spatial thinking skills and educational learning outcomes at a higher level. The question is whether RIT involvement is too late to make any changes in this regard, or whether they can still make an impact through the curriculum implementation process.

Finally, there is a need for RIT and the GoR to discuss ways of transferring ownership and building the capacity of REB to sustain this innovation.
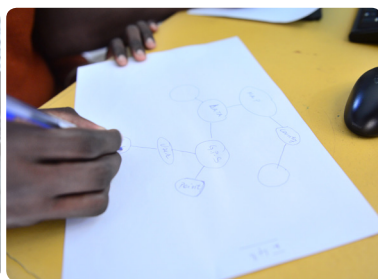
Cost Considerations

A low cost and high cost option for the immediate next phase are provided, both for 10 schools only. The high cost option will cost almost GBP 60,000 for initial scale up and the low cost option around GBP 15,000. The low cost option assumes available technology. Costs per school imply low-level scale-up is inevitable in the current financial context.

It would have been useful to have a full unit cost per teacher and per student for the low and high cost scenarios. The training costs should be part of these unit costs. Notably, the idea of creating schools of excellence is not reflected in the economic analysis but may actually have some impact on unit costs. There is clear cost-efficiency in the fact that the innovation uses free and open software.

There is a need for a more in-depth analysis of the longer term technology investment costs for the Ministry as their ability to invest in equipment seems to be critical to scale up this initiative. This analysis needs to take into account the impact of such investment on MINEDUC/REB budget. Additional arguments are needed to justify possible future investment in technology vis-à-vis low-technology alternatives. The availability of appropriate computing hardware at low cost to the education sector in Rwanda, as well as free internet connectivity for secondary schools, will offer greater opportunity for scale-up. Assessing what can be realistically expected of these technology options will be important.

Immediate Next Steps

- RIT and REB CMD, with advice from the TWG curriculum & materials, to discuss what options there are to have an impact on the curriculum implementation process, with a focus on teacher training and use of additional resources and content to implement the new curriculum.
- RIT to further analyse the options for making technology available at a larger scale and provide good justifications why the proposed use of technology indeed provides good value for money, and discuss this with the Ministry and relevant TWGs (TPD and curriculum & materials), ensuring a link with the Ministry's ICT Masterplan.
- RIT to identify additional funding for the initial scale up to 10 schools and use the time of implementation to discuss with the Ministry and to identify a sustainable way of scaling up the innovation, owned and managed by REB and unblocking the current technology investment barriers.
- MINEDUC/REB as the Hub for Innovation to explore and broker possible relationships with private sector and NGO providers of ICT goods and services.

Overview of the Innovation

Know Zone Rwanda (KZR) was the country's first edutainment TV programme created specifically to support Primary 6 students and teachers ahead of their primary exams. The lively series included 13 x 28-minute episodes featuring key sections of the Primary 6 national curriculum for Maths, English and social studies and comprised studio activity, a serial drama and animations. Based on successful experience in Kenya, the project's original focus was broadcast-led in order to produce and pilot a TV programme that supports pupils' learning in the home at no cost. The Rwandan pilot additionally used the content of the programme in classrooms in order for teachers to improve on classrooms practices and make lessons more interactive.

During pilot implementation it was soon realized that access to electricity and televisions was extremely limited in rural parts of Rwanda, thus restricting the number of viewers at homes and communities. Moreover, Rwanda's recent change in 'language of instruction' and subsequent poor levels of English, meant that a more school based model, with modified, slower-paced and more targeted formats would potentially have greater impact for students. Therefore, towards the end of the innovation, a trial in eight schools using re-edited existing TV footage produced a suite of eight simplified, 12 minutes, subject-specific episodes with slower spoken English, more graphics and some additional voice-overs to repeat and consolidate learning concepts. These adapted versions of the TV series were specifically designed for use in schools with the aim to change teachers' practices and promote the use of a range of technologies in the classroom.

In-service and pre-service teachers were trained in using the package for teaching. The project was implemented in 18 project schools and two teacher training colleges (TTCs) in Kigali and Northern Provinces. In addition, a number of staff of the national media sector were trained on animation and TV production, including the Africa Digital Media Agency.

Total reach of the innovation was 28 teachers and 999 primary school students, in addition to the viewers of the national broadcasts.

Grant Recipient:
The programme was implemented by The Mediae Company.

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What makes it innovative?

This project introduced the country's first edutainment TV programme, based on the KnowZone experience in Kenya. The use of TV content in classrooms was new to Rwanda. It set out to trial different TV platforms and technologies for use in the classroom and aimed to impact on teaching practices and teacher performance and use of 'smart' ICT devices.

Relevance to education priorities:

Main theme: Effective teaching and learning;

Sub theme: Technology

The project was relevant to the ESSP priorities through its aim to trial technologies to improve the quality of learning and learner centred methodologies in Rwandan primary schools. It also gave learners and teachers the chance to become more familiar with a range of different ICT platforms and so develop their ICT skills, a desired key outcome of basic education in the 2010-15 ESSP.

Another ESSP priority is to develop 'a skilled and motivated teaching, training and lecturing workforce'. Rwanda is experiencing the growth of child-friendly schools with modern teaching approaches being encouraged. The project complemented this movement and provided resources to motivate teachers to use interactive and creative techniques in their teaching.

Project learning (activity/output to outcomes level)

- Limited access to electricity and TVs, especially in rural homes, was an early identified learning point.
- The technology in schools worked well and teachers felt competent to use the technology, but some schools faced occasional issues with regard to power supply.
- Teacher support was provided through SMS and classroom visits from an allocated methodology advisor, which was appreciated by teachers
- The broadcast-led model did not give teachers sufficient flexibility to use the content in classrooms on a weekly basis. Teachers wanted and needed to be able to 'pick and choose' from various episodes in order to have better control of the lesson content and activities, in line with their school's syllabus. The increased focus on video for classroom teaching applied in the final stage of the pilot provided this flexibility which helped the teachers to use a wider variety of teaching methods.
- There were some issues with the level of English used in the videos for the classroom and a realisation there is a need 'pitch lower' to make content more accessible for teachers and learners. This learning was taken on board in the final stages of the pilot.

Project outcomes and reflection on monitoring and evaluation:

The evaluation design was a quasi-experimental study (teachers with general exposure and intensive exposure to the programmes evaluated at baseline and end-line), though the samples are too small for this to be considered truly 'experimental'. The study focused on quantitative measures of student learning outcomes in English and mathematics (using tests developed by the project), and questionnaires to teachers and trainee teachers on their subject knowledge and their behaviour and attitudes towards pedagogy (including the use of ICT). This was accompanied by a small number (15) of systematic classroom observations to consider the changes in teachers' pedagogy. Student and teacher information on their access and viewing of KnowZone programmes was collected along with interviews and Focus Group Discussions with teachers and students.

Results from the final evaluation suggested that the project had limited impact on student learning outcomes; in fact mean scores declined in English (-5.6%) and Maths (-1.9%). Teachers' difficulties in utilising the new resources in class and, possibly, the distracting nature of the new technology at start up may have contributed to this. Teachers reported an initial lack of confidence in using the technology but this rapidly improved and their performance in the

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English test did improve (from 69% to 81%: +12%). Although teachers claimed to be using more participatory pedagogy, this was only partially borne out in the observations of their classroom practice. There was a difference between the general and intensive exposure teachers, the latter using more mixed teaching practices with less 'lecturing'. Given the inconclusive results on changes in classroom practice it is not surprising that there was little impact on student learning, even taken into account the short exposure time of students to the programmes.

The study was carefully executed and reported, but could have been more transparent in methodology and reporting of results. The evaluation design and sample were problematic and instrument validity and, in some cases, reliability were not explored. An extension to the project had an associated evaluation that revealed some useful qualitative information, but this was less carefully constructed and it was rather diffuse in focus and findings.

Conditions for success

The successful implementation of this project was dependent upon the technology. Teachers needed time to become accustomed to and feel confident in using a range of technologies in the classroom. Technology also needed to be seen as something which enhanced students' learning across the curriculum. The technologies were expensive and were reliant on access to electricity.

The content, style and format of the episodes must be relevant and useful to teachers, so they can pick and mix the order in which they show the content to suit their personal approach to delivering the curriculum. This, however, will result in shorter episodes which may not be attractive for broadcasting. Hence the project may have to make a choice between TV production and focussing on edutainment outside the school environment, or go for using targeted TV episodes (or video clips without any TV production) as a professional development tool, which stays much closer to the curriculum, but may not attract a large number of TV viewers.

There is potential to capitalise on REB's and the Rwanda Broadcast Agency (RBA) interest in using TV for educational purposes.

Scale up and sustainability considerations

The project proposed 2 costed scenarios for upscaling its intervention over a period of 4 years:
1. Support REB to produce its own teacher-training TV programme, SMART LEARNING, both for learning at school for in-service and pre-service teachers and at home for parents/carers. This was trialled by REB in 2011 and is included in REB's draft ICT Masterplan. However, it is unclear whether this scenario applied similar methods and approaches as this was not the intervention tested by Mediae.
2. Support REB to develop their own broadcast-quality educational TV programme aligned to the curriculum, along the lines of Know Zone Rwanda, for national broadcast and use in schools.

The issue with the first model is that it is not a scale-up option for KnowZone Rwanda, but bringing in a new idea of 'TV for Teachers'. Apart from not being a scale up of the KnowZone pilot, the question is how much scope there is for a TV programme for teachers only. The second option indeed is a continuation of KnowZone, particularly the broadcast element, with increased levels of involvement from REB.

As indicated before, it is necessary to make a clear choice between broadcast educational TV programmes and a focus on supporting teachers in classrooms. The latter option would be about using video for teacher professional development (TPD), which is better done using mobile

phones as a delivery platform rather than TV. The new style videos that were used during the extension of the pilot were considered more useful for classroom teaching and could be used and expanded on, but this is not necessarily TV content. If scale up considerations point to a TPD focus, the content will need to be linked to the new curriculum and it will also require a strong teacher training component to support teachers in using the content in a classroom setting. The use of video for TPD may be a good element within a wider teacher training programme of REB and Mediae could liaise with PLAN International that also uses video for TPD.

Given the experience built during the pilot, the lack of edutainment for children on Rwandan TV and the specific profile of the Mediae Company, there may be most potential in deciding to go for the TV broadcast option. However, the programme should focus on 'learning at home', targeting children in a broader age range and delivered in a 'fun way', which also implies the TV episodes being more loosely connected to the curriculum than in the pilot programme. The Mediae Company has the right expertise to be supporting REB and the Rwandan Broadcast Association (RBA) to be able to produce and broadcast these programmes. The TV content could still be re-packaged for use with children (rather than for TPD) in schools.

Cost considerations

Scenario 1 has total projected costs of GBP 1.02 million, which is high for an audience of teachers only, without clarity about future impact.

Scenario 2 assesses the costs of scaling up the activities that were tested during the pilot extension, including slimmed down and simplified episodes that are closely aligned to the curriculum and attached to lessons plans giving teachers more control in using the content during their class. These slimmed down episodes can be produced more cost-efficiently in comparison with the original production of the pilot phase. Mediae's involvement will be primarily related to developing capacities and skills for the Ministry to make quality educational and entertaining TV programmes.

The general issue with a media intervention is that production costs are high. While scenario 2 presents teacher support cost of GBP 13.16 per teachers/teacher trainees, this is only a fraction of the entire package. Production and equipment comprise over 50% of the scale up version. Total cost for scenario 2 comes to GBP 1.46 million, which, with a reach of 17,416 teachers, comes down to GBP 84 per teacher/teacher trainee.

These costs may become more justifiable if the focus is on reaching all primary children in Rwanda with an entertaining TV programme for informal learning at home (though limited access to TV in the home would still restrict the total audience).

Immediate Next Steps
- Make a choice where to focus: edutainment for TV or TPD video material production
- If the TPD option is selected, consider the consequences in terms of delivery (TV, mobile phones, or others) and engage in dialogue with REB, other relevant agencies and the TWG on TPD on how to make this happen. Try to integrate this work within the broader context of REB in-service teacher training. Make sure that the video is part of a wider package of support, including peer learning (a 'blended approach')
- If the TV edutainment option is selected, engage with the relevant stakeholders and try to attract funding for a high quality TV learning show for Rwandan children, building elements of further improving the capacity of the Rwandan media industry and REB. The interest of RBA to invest some of its own funds in such a TV production could assist in attracting additional investment.

UKaid
from the British people

Overview of the Innovation

The Rwandan Children's Book Initiative (RCBI) supported the writing, publication and wide distribution of Kinyarwanda children's books with a focus on Primary 1-3. The ultimate aim of the project was to improve literacy skills and learning outcomes for young children in the first years of primary school by increasing their reading, particularly of high quality and age appropriate books.

The project consisted of separate components implemented at National and District level. The National level focused on work with the Publishing Industry, the Rwanda Education Board (REB) and Rwanda Library Services to increase the number of quality Kinyarwanda children's books available on the market. In Burera District the project piloted teacher training to promote reading alongside the procurement and distribution of books, book storage units and reading mats.

The project team has continuously evaluated the piloted approaches, applying learning and adapting to new opportunities as they arose. In the National level work with the publishing industry, this has been exemplified by the way in which the project has been providing hands-on support and mentoring to the key actors within the industry (e.g. illustrators, writers, publishers) to build their capacity to produce quality children's books in Kinyarwanda, while at the same time engaging REB in a similar exercise, specifically in relation to assessment of reading materials.

The innovation trained 390 teachers in 87 schools. The budget of the innovation was GBP 695,000.

Grant Recipient:
The RCBI was managed by Save the Children (SC).

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What makes it innovative?

The project has similarities to the Tanzanian Children's Books Fund but is new to the Rwandan context. It introduces a new way of developing learning materials by taking a whole systems approach focusing on the entire value chain, including working with publishers, REB, Rwanda Library Services, decentralized levels staff and schools/teachers.

Another innovative project element is providing books in the classrooms through the classroom library model. A child-friendly storage unit enables easily accessible books to be kept in the rooms, instead of being inconveniently locked up in an office or separate library. Additionally, mats were provided for the rooms to foster an appropriate and learner friendly group atmosphere for "story-time" that has been widely appreciated by teachers and children.

Relevance to education priorities:

Main theme: effective teaching and learning
The need for more reading books in Kinyarwanda was highlighted in the 2010-15 ESSP. Reading to improve literacy skills has also been promoted through a number of the Government initiative 'Rwanda Reads'.

Project Learning (activity/output to outcomes level)
- The project showed the benefits of a multi-actor approach with government, NGO and the private sector all playing their part. The linkages brokered between publishers and educators helped to develop quality products and successful outcomes for children.
- The project managed to change the classroom environment by introducing reading mats and book shelves, contributing to excitement, 'eagerness to read' and high levels of engagement

among teachers and learners.
- A number of new activities were introduced and linked to the reading activities, e.g. sketches, role play, dialogue.
- Through the reading activity teachers and students had different roles, whereby students sometimes performed as facilitators of activities.

There were also some notable issues when implementing the reading activities, such as:
- Limited time for reading in classrooms as there was no time for reading allocated on the school timetable.
- More awareness raising with communities is required in relation to purchasing and maintaining books.
- Only Kinyarwanda teachers have been trained. When they leave the school there is none to replace them.

Project outcomes and reflection on monitoring and evaluation

The evaluation has one component for the national level and one for the local level. National evidence is through interviews and Focus Group Discussions analysed qualitatively, along with analysis of books available through RCBI. School level (local) quasi-experimental study (control and treatment groups compared at baseline and end-line) collects evidence through teacher and head teacher questionnaires, classroom observation and student survey. At the end-line students undertook a reading assessment test.

The project outcomes include:

At national level:
- The increased quantity of storybooks in the project schools and favourable analysis of the quality of the reading books;
- Publishers, authors and illustrators have the knowledge, skills and confidence to produce high quality children's books in Kinyarwanda;
- Demand for quality children's books is established and sustained and a range of mechanisms are in place that will stimulate demand in the future.

At school level:
- Teachers have the knowledge, skills and confidence to manage school book collections and use books to support reading and learning.

- There were a significantly higher percentage of classroom lessons in RCBI schools (as compared with control schools) with reading present, both through reading activities and teachers using storybooks.

Learners at RCBI schools performed better in reading tests at end-line, usually significantly so, than learners at control schools in their ability to read letters and words, take dictation, show comprehension through completing a sentence by filling in the missing word ('cloze' assessment), and being able to read a passage. The presence of story books in the school predicted student reading ability at end-line.

The evaluation is rigorous and transparent, with sound outcomes, but would be even more convincing if there was more evidence of the validity of the evaluation instruments (classroom observation and reading test).

Conditions for success

This project highlighted that innovation often means change to practices and attitudes at multiple points in the system and across a wide range of stakeholders. Within the publishing community alone, the project team worked with managers, editors, authors and illustrators, and this involved a significant capacity building element. The important connector role that SC played in the pilot will need to be played by the government in the future, and additional 'system readiness support' from SC may be required to achieve this. There is also an important need for the publisher's association to be involved in advocacy activities vis-à-vis the government on the importance of children's books and the support for market demand.

The successful implementation was also dependent on significant advocacy work about the importance of reading fiction, particularly in the early years, to develop basic literacy.

Scale up and sustainability considerations

Scale up and sustainability of the project is based on 2 scenarios. One is transferring the different components of the project to the Rwandan Government. In this scenario RCBI's role will be limited to supporting the handover of the programme to REB.

The second scenario is for RCBI's role to change from an implementer to providing technical oversight of the various elements of the programme from national to school level. This will avoid potential fragmenting of the intervention, maintaining the links in the system, and building institutional readiness within REB.

Scalability is feasible for both scenarios. A lot of groundwork has been completed, including development of materials, capacity strengthening of REB, training publishers, supporting Rwanda Library Services, etc.

The whole system approach is powerful. A crucial factor for successful institutionalisation is not to lose the comprehensiveness of the model and hold the various elements of the programme together. Scenario 2, with SC continuing to provide an oversight role, is seen as the best possible solution to scale up and successfully sustaining the intervention.

In this scenario, SC would focus on creating and/or maintaining the links in the system and between the actors (e.g. Publishing Industry, MINEDUC, the College of Education, TTCs, Local Government, Rwanda Library Services, and Development Partners), while also working on building institutional readiness for REB to take over this higher level coordination role.

Building this institutional readiness includes advocacy with the Ministry on various fronts, including:
- REB to use the capitation grant to provide story books for early grades
- Issuing directives for use of supplementary reading materials in the content areas to increase the chances for reading across the curriculum – advocacy during the pilot has already supported the integration of the use of supplementary materials in the new curriculum
- Advocating for an explicit time allocation in the new curriculum/school timetable for recreational reading.

Cost considerations

The economic analysis was based on the above scenarios and identified four types of cost categories (developmental costs; implementation costs; sustainability cost, and M&E and learning costs). In addition, unit costs for the various elements of the project were presented at both national and decentralised levels (school level cost; unit cost for materials, and unit cost for teacher training).

Total costs during the pilot intervention were GBP 5,807 per school.

Scaling up of the national level component will not be very costly as the intervention has already taken place at the national level, and a significant proportion of those working in the book industry have already been reached. Scaling up would involve continuation on a similar scale, with similar numbers of new trainees from the book industry.

Scale up of the classroom library component of the project in its current form is more challenging in terms of costs. Approximately GBP 150 per classroom has been spent thus far on the books (GBP 70), bookshelves (GBP 75) and mats (GBP 6). These amounts would be similar for scale up. The scale-up intervention would combine books material provision costs per school (GBP 2,950) with the teacher training costs per school (GBP 253) amounting to a total replication cost in schools (GBP 3,203), which is significantly cheaper in comparison with the pilot intervention. This amount for delivering at scale could potentially even be partially come from existing capitation grant provisions.

Although the economic analysis is generally strong, it could have been further strengthened by strengthening the case for the added value of scenario 2 above scenario 1, while in the current analysis the additional costs for growth scenario 2 (where SC will have an oversight role) are not specified.

Immediate Next Steps

- Continue working with all key actors in order to maintain the links in the system
- Continue advocating, influencing and developing partnerships with government and development partners with the aim to build institutional readiness and take the intervention to scale based on scenario two. This includes the identification of a donor agency to fund scale up
- Activities will include:
  o Presentation of the project to the Minister of Education and Development Partners
  o Development of a Memorandum of Understanding with the Rwandan Library Services
  o Commencement of peer learning circles in schools and integration of reading activities in wider teacher training intitiatives
  o Meetings with REB's DG to discuss improving book access in schools
  o Provide input to newly drafted Kinyarwanda P1-P3 teacher guides
  o Support to REB to refine the process for ordering supplementary resources
  o Mentoring schools on effective book ordering
  o Dissemination of project results, including endline evaluation results
  o Support to the publishers to establish supplementary readers aligned to the new curriculum
  o Presentation of Community Reading Habits research to GoR
  o Support Rwandan Library services in the strategic mapping of community libraries in Rwanda
  o Work with the auditing department to establish protocols for assessing schools' regular use of books
  o Support Rwandan Library Services in the implementation of the National Book Development Policy
  o Invite REB project focal points & leadership to RCBI events and field visits to observe activities
  o Dialogue with other projects to identify areas of cooperation

INNOVATION FOR EDUCATION

Improving the Quality of Education through Active Learning in Rwanda

Overview of the innovation

This project piloted the innovative 'Active Learning Method' of teaching – which could improve the quality of education in Rwandan basic education. The Active Learning Method (ALM) involves learners doing something and then reflecting on what it is that they have done. It seeks to improve learners' critical thinking, problem solving and comprehension skills. The project involved training in-service teachers and pre-service teacher trainers to use more active learning methods in the classroom. Teachers engage in an ongoing 'ALM cycle' of monitoring, sharing and improving. During the 'monitoring' stage, teachers are being filmed in their own classroom and observed by other education staff using ALM classroom observation schedules. At the 'sharing' stage, reflection and discussion takes place based on the videos and classroom observations, and the strong points and areas for further development are discussed. At the 'improvement' stage, Teachers (in-service) and Tutors at Teacher Training Colleges (TTCs) (pre-service) then identify for themselves which areas they will work on to strengthen their capacity, with support provided by the project.

The pilot was implemented in 16 schools and 3 TTCs across five districts in Northern, Eastern and Western Province. Training was provided for 48 primary teachers, 12 TTC tutors and 6 Sector Education Officers (SEOs). The number of students reached was 7,835 in primary and 1,724 in secondary.

Total budget for this innovation was GBP 319,900.

Grant Recipient:
The project was implemented by Red een Kind, a Dutch NGO, in collaboration with Edukans, and the University of Amsterdam from The Netherlands and Association Bamporeze, the Presbyterian Church of Rwanda and African Evangelistic Enterprise, all Rwandan NGOs.

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What makes it innovative?

While the 'Active learning method' has been implemented in classrooms in Ethiopia and Uganda, the specific methodology used, which put the learner at the centre of their learning process, is new to the Rwandan context. The use of video for self-reflection also demonstrated technological innovation.

Relevance to education priorities:

Main Theme: Effective teaching and learning;

Sub-theme: Skills development
There are close parallels with the priorities in the 2010-15 ESSP where quality education and the potential for more learner-centred teaching methods are promoted.

Project learning (activity/output to outcomes level)

- School Based Mentors (SBMs), head teachers (HTs) and SEOs participate in classroom observations followed by reflection sessions using classroom video. These observations and joint reflections are very much appreciated by the teachers, and the teachers indicate they use these observations and reflections for further improvement of their practices.
- SEOs, SBMs and HTs feel empowered by the fact that this pilot has given them a structured, positive role in relation to improving teaching practices. At the same time, there are some questions around the role of SEOs vis-à-vis working with teachers, because it may be outside their scope of work and not fully aligned with their expertise and skills. Using other teachers

to do peer observations is worth further exploring during possible scale up.

- Teachers indicate that they learned very practical things from the project that they can immediately apply in their classrooms. Examples include: stronger students helping the weaker students in class, use of group work, use of self-made teaching aids and worksheets, active use of textbooks, increasing the amount of student talk in class.
- Teachers commented that the ALM has made them more confident and made their teaching job easier.
- The in-service teacher component has run much more smoothly than the pre-service component, as initially it proved difficult to get agreements to work in TTCs. Moreover, while at TTCs it is stated that ALM is part of the methodology, it appears to remain a theoretical concept rather than something that is actively practiced in TTC classrooms. This is an institutionalisation issue to be resolved. The in-service teachers are very open to change their own practices based on what they observe themselves and hear from the colleagues observing them.

Project outcomes and reflection on monitoring and evaluation

The evaluation design was quasi-experimental (control and treatment groups evaluated at baseline and end-line) using mixed methods with quantitative indicators for changes in learner outcomes, learner transition rates and teacher knowledge, attitudes and reported practices, classroom observations and qualitative data from interviews and Focus Group Discussions.

The results were mixed with no significant difference in learner outcomes between the treatment and control group schools using school examination data. The question whether examinations are the best measurement and the time it takes to change learning outcomes may be explaining factors. However, the qualitative findings indicate that teachers use more ALMs at end-line than baseline, and involve students in more activity-based learning. There is no evident impact yet on teacher self-reported knowledge, attitudes and practice of ALM. TTC tutors and SEOs responded positively to the training.

This was a carefully designed, though not large study, with problems of lack of check on reliability of examination and observational data. The analysis of data does not consistently compare the control and treatment group improvements from baseline to end-line.

Conditions for success

This project demonstrated the need for an innovation to work within existing structures and curricula to be well-received at the local and national level. For example, the project team developed an observation matrix that could be incorporated into the existing lesson planning template. The long-term success is dependent on government support for this innovative teaching approach and its wider adoption within the existing policy framework.

Scale up and sustainability considerations

Red een Kind advises four methods of upscaling the Active Learning Method (ALM), which it wants to see happen during the next years:

1. **Replication:** delivering a slightly adjusted support package for all schools in the pilot Districts. This will reach 380 primary schools, 1,104 teachers and 180,205 students.
2. **On site Teacher to Teacher Classroom Support:** A new addition to the model would be to support ALM-trained teachers to play a role in supporting non-trained teachers in their school to adopt ALM in their teaching practice (with targeted support from Red een Kind and follow up by SEOs, head teachers and REB.
3. **Policy Implementation (Teacher Professional Development Pathway):** support the implementation of the new Teacher Development and Management (TDM) policy, by supporting REB-led in-service teacher training (both the upcoming curriculum implementation training and beyond) an infuse ALM within that.
4. **Integration in TTC system:** This component focuses on supporting the TTCs and training of tutors in ALM, who will in turn train SBMs and SEOs to play an ongoing ALM support role for teachers.

The documents are not sufficiently clear about how the scale up model will be implemented and some questions remain about the current status of the steps that can make them happen in the future. There is mention of the innovation being embedded in the system but no sufficient amount of reflection is given to how to achieve this. The medium term upscaling plans are still very much according to a 'project mode', although the role for Red een Kind clearly reduces and the role of
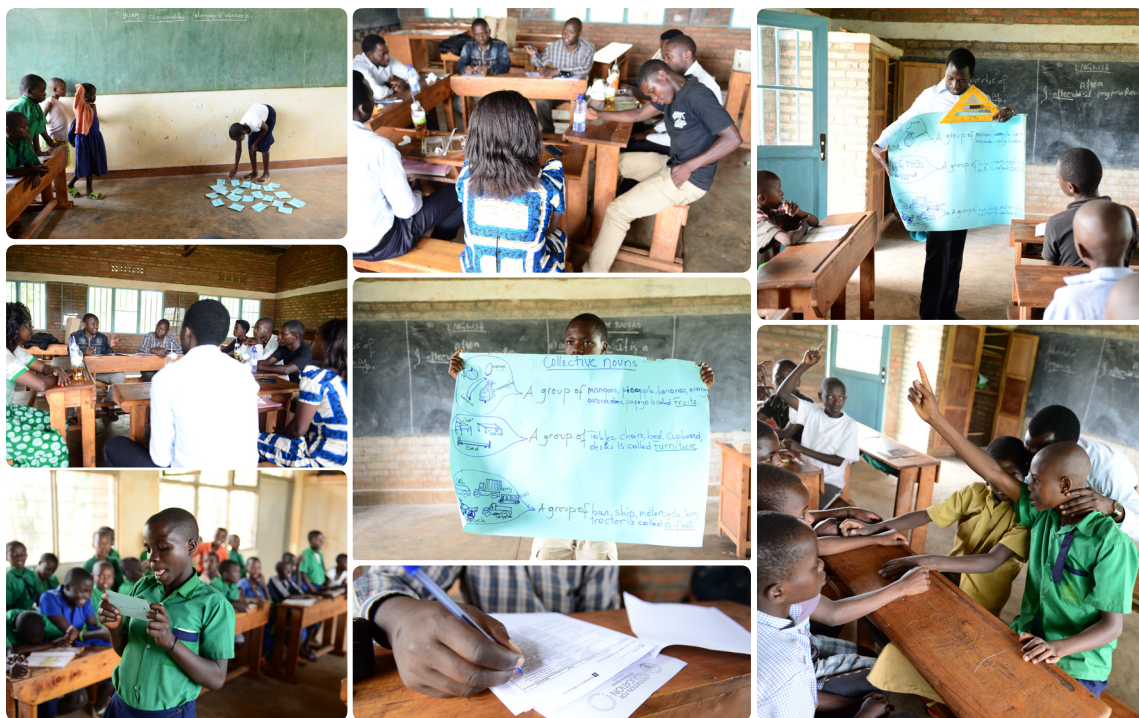
SEOs, head teachers and SBMS increases. This is not necessarily 'wrong', but there is a need for more clarity about concrete steps towards implementation through an institutionalised model.

Finally, the Fund Manager would like to challenge Red een Kind by asking them to take a more conceptual perspective of the project and think more generally about 'what are the key ingredients of a good Teacher Training programme' that will need to be embedded in the Rwandan system (e.g. peer learning, Head Teacher support)? And then - based on those elements - start to think about how these key ingredients could end up in the system with (or without) Red een Kind support. Sharing a vision of the role and capacity building needs of SBMs, SEO's and other stakeholders will need to become part of this.

Cost considerations
Red een Kind presented a budget that includes detailed unit costs that are slightly lower than the pilot package. The total scale up budget will be around GBP 650,000 over 3 years. Unit costs are at GBP 12 per teacher and GBP 0.69 per student.

The economic analysis is merely a project budget for the next phase. There is a lack of focus on the VfM aspects (or even just the costs) of going for a fully institutionalised option delivered through GoR policy, curriculum and implementation. There is need for a clearer analysis of what an institutionalised option would mean in terms of costs (including TA costs) and how this would compare with the project option in VfM terms. Even if scale up does not happen immediately, it would still be helpful to get an impression of what this would mean in longer term budgetary terms, especially if there is a focus on the Government to embed (parts of) the innovation within its own programme.

More in-depth analysis of costs in relation to impact would be helpful for each of the different options presented in the scale up and sustainability plan.

Immediate next steps
- Red een Kind to provide an advisory document to the Ministry, which can be used in Technical Working Group and Task Force meetings, on the 'key ingredients of a good TPD programme', which can help the further operationalisation and implementation of the new TDM policy (MINEDUC can use this in conjunction with findings from other IfE projects).
- Red een Kind, REB TDM and the College of Education should continue their discussions about embedding ALM approaches, methods and techniques in REB teacher training programmes, both pre-service and in-service.
- If implemented in 'project mode' during the next 3 years, Red een Kind will need to find scale up funding. Even when working in 'project mode', it may be worth thinking about having a broader in-service support programme with involvement from a wider group of IfE GRs, all working in the area of continuous TPD, rather than a variety of different initiatives with similar objectives.
- DFID to consider supporting a wider teacher training initiative as part of the next sector programme.

Overview of the innovation

This project piloted a new way to engage parents and the wider community to curb school drop-out rates, impacting on school completion rates. At school, the approach strengthened the capacity of PTAs in school management and worked closely with head teachers and teachers to mitigate school dropout.

In the community, radio talk shows and 'community education workers' (CEWs) reached out to parents and encouraged them to step in and actively play a role in their children's education with regard to drop-out. Parents were given support to identify and address the challenges that lead to school drop-out.

Among the core responsibilities of the CEWs during the implementation of the innovation was to pay visits to the homes of children who dropped out, discuss the reasons for drop out with the children and their parents, address the challenges they faced and raise awareness about the importance of completing school. In total, 214 CEWs were trained in three districts – Ngororero (73), Musanze (68) and Gasabo (73).

Grant Recipient:
The project was managed by the IMBUTO Foundation from Rwanda.

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What makes it innovative?

Previously in Rwanda there was no comprehensive grassroots approach supporting parents, teachers and communities in combating the increasing problem of school dropouts and repetition rates.

The approach was particularly innovative through its creation of a new role – the Community Education Worker – to specifically address the issues of drop-out. This role was modelled on the success of the Community Health Worker in Rwanda.

Relevance to education priorities:

Main Theme: Accountability and Empowerment;

Sub-theme: Skills Development
The project directly addresses the first priority in the 2010-15 ESSP for improving completion rates while reducing drop-out and repetition in basic education.

Project Learning (activity/output to outcomes level)

- The strength of the project is its 'closeness to the ground'. The project is organised at the cell level and the CEWs come from the same communities as the people they work with.
- Related to this, is the great enthusiasm and commitment among the group of CEWs. Many CEWs personally commit much more time visiting families of drop out students and making sure drop out children return to school than they have to and without any additional benefit.
- IMBUTO's interesting monitoring system uses SMS reporting
- The project focuses on getting drop out children back to school. At the same time, the project has only a partial focus on addressing the school-based factors that cause the drop-out (as opposed to other factors such as poverty). While fully realising that 'keeping students in school' may not be at the core of this innovation, it is very important for the Ministry to see this innovation as one area of focus when addressing the drop out problem, which needs to be complemented with deliberate strategies to improve the learning experience in schools and a commitment to establish a genuinely inclusive education culture that addresses all learners.

Project outcomes and reflection on monitoring and evaluation

The evaluation comprised quantitative measures for drop out and re-integration of targeted students, and self-reported attitudes and behaviour of a variety of stakeholders (teachers, head teachers, SEOs), along with follow-up qualitative interviews and focus groups with parents and learners. Some comparisons are made from baseline to end-line.

The evaluation indicated that there has been an increase in reintegration across the districts, e.g. in Gasabo district, where there had been 2,712 primary students re-integrated in 2013, this increased to 9,484 in 2015. However, there are no data on their retention. The latter may need more time and may not be possible to establish in the pilot period. Anecdotal information suggested that a high percentage of the reintegrated children were still in school by the end of the project.

General improvement in the drop out and integration at district levels cannot be attributed to the innovation, though some contribution is assumed. These improvements for targeted students are accompanied by more involvement and positive attitudes of parents. The role of CEWs and the interaction with communities was received well and this innovative component of the project, in particular, is thought to have made a difference.

The results are undermined by poor sampling, lack of demonstration of validity and reliability of instruments, and no statistical testing of differences where these apply.

Conditions for success

The main condition for success for this project is the positive response to CEWs. 65% of parents noted that the biggest contributor to their perception of education was the sensitisation by CEWs. This in-person communication was considered more effective than the radio. However, there are implications for funding and the identification of appropriate personnel if the project were to be sustained. This is linked to the question whether the use of volunteers in the pilot can also provide a long-term solution. IMBUTO has developed ideas in terms the use of volunteers and financial sustainability of the model, which includes the use of cooperatives.

The support from DEOs and SEOs (and consequent systemic links) is critical for this innovation to be successful and the project has been very good at mobilising them.

The project has been highly successful in getting children back into school but the question remains whether returning to school will indeed be supportive of the children's learning needs. School-based factors impacting on the child's learning experience can be a cause of drop out and need to be taken into account in a more comprehensive model of improving completion rates.

Scale up and sustainability considerations

Two scale-up options are presented: (i) gradual scale up, in which all Districts will be reached within 5 years and (ii) immediate nationwide scale up.

The idea of gradual scale up makes most sense, for manageability reasons as well as the absorption capacity of the Ministry of Education. A more gradual scale up will also help the Ministry to have its capacity strengthened over time to be ready to manage a nationwide drop-out prevention and response programme. The scale up model has been adjusted and the support package has been slimmed down to ensure better value for money, based on lessons learnt from the pilot. There will be no radio campaigning in the scale up package, and a lighter incentive package for CEWs. The CEW remains the crux of the model and the innovation seems very scalable if communities adopt the innovation and support the CEWs, or if MINEDUC commits to making this a formal position in the system. However, this will need to be set against other already existing positions and structures at decentralised levels in the system and the costs and added value of adding another position.

There is a need for IMBUTO and MINEDUC to jointly reflect on the policy and institutionalisation dimensions of scale up in the long run. Embedding this intervention in the government system seems a relatively straightforward thing to do, and the Ministry seems indeed committed to making this happen, but the scale up and sustainability documents from IMBUTO do not yet sufficiently address how handover will take place and how strengthening the capacity of MINEDUC will take place over time with a technical assistance (rather than implementation) role for IMBUTO.

Cost Considerations

IMBUTO has provided a detailed budget for the next 5 years based on the gradual scale up model. Upscaling costs will in total approximately GBP 4 million with unit costs of 15,000 RWF per CEW per month. This is lower than the pilot unit costs and is set against the anticipated reintegration of drop-out students of 10% in the project. The calculations raise the issue of the availability of external funding at least during the next 5 years, as well as the need for detailed discussions between IMBUTO and MINEDUC about which costs can be borne by the Ministry and which need to be found externally.

The current documentation does not explain how the Ministry will share the cost burden, and how this compares to current expenditure in MINEDUC. Another issue that deserves more attention is the involvement of volunteers (i.e. the CEWs) and the question whether voluntarism will be sustainable in the long run.

Immediate Next Steps

- IMBUTO and MINEDUC to agree on the joint development and implementation of the scale up of this project, based on the initial desire expressed by MINEDUC to indeed go for upscaling of this innovation
- IMBUTO and Ministry to agree on the budget envelope and how the budget requirements will be met, including deciding on which cost components can be covered by the Ministry as well as identifying the need for attracting external funding
- As part of scale up planning, decide on the role of IMBUTO and the planning of the trajectory towards full Ministry ownership and management, including technical assistance components to ensure system readiness
- MINEDUC to consider broader systemic implications of scale-up - notably the establishment of the CEW position and how this is supported, and the possible role of complementary MINEDUC led behaviour change mass communications. The existing MINEDUC education programme on radio and TV could be effectively used for this purpose.

Achieving Learning Outcomes for All
(ALOA)

Overview of the innovation:

This project aimed to address the issue of quality and inclusion in primary schools. Teachers were trained and supported on an ongoing basis to use learner-centred methods in their classrooms. Selected teachers mentored others through the transition to using such new techniques in the classroom. There was also a significant school leadership element to this project as Head Teachers were trained in innovative methods for supporting effective teaching and learning.

The project was implemented nationwide within 9 different districts (Ngoma, Karongi, Nyamasheke, Muhanga, Burera, Nyamagabe, Gisagara, Bugesera and Rulindo).

A total of 245 head teacher and 1,682 teachers were supported, reaching 113,678 primary students. The total budget was GBP 645,976.

Grant Recipient:
The project was implemented by Voluntary Services Overseas (VSO).

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What makes it innovative?
The approach was innovative in that it provided extensive training for in-service teachers in learner-centred methods, with a specific focus on using teacher peer support mechanisms, something which was new to Rwandan context. It was also developing an evidence base for the new model for improving quality of education by exploring how the relationship between the use of learner centred methods in teaching, improved school leadership and inclusive teaching practices could lead to improved learning outcomes.

Relevance to education priorities:

Main Theme: Effective teaching and learning;

Sub-theme: Inclusive education, accountability and empowerment
The dual purposes of strengthening school leadership and promoting learner centred methods to improve quality of basic education of this project are closely aligned to core priorities within the 2013-2017 ESSP.

Project learning (activity/output to outcomes level)
- Teachers clearly tried to bring active learning into practice: Fund Manager visits to classrooms confirmed that active participation of pupils in class, different classroom arrangements, focus on the needs of individual children, working in groups, use of low cost or no cost teaching & learning materials, improvement of relations between teachers and students indeed take place.
- Although the basics of classroom change are visible, teachers are still struggling and trying to implement their learning in slightly mechanical ways, which can be seen as an expression of the stage teachers are at in a longer process of professional development. The process of changing teaching practices needs time. While there are immediate changes happening, more profound changes will take longer and will need to be systemic rather than through a project mode of implementation.
- Over time, the project has moved towards the conceptualisation of a school-based approach to Teachers' Continuous Professional Development (CPD) that is tightly connected to the existing REB CPD strategy of which the School Based Mentor programme of the GoR is part. This link to the existing system is a strong part of the VSO project.

- The role of the volunteers in the pilot is very important, and even seems too critical for the success of the model. VSO has taken this into account in designing its proposed scale up model, which is less dependent on the inputs of VSO volunteers at the field level.

Project outcomes and reflection on monitoring and evaluation:

The evaluation is a quasi-experimental design (control and treatment groups compared at baseline and end-line) using Early Grade Reading/Mathematics Assessment tools for student learning outcomes, and classroom observations of teacher practice (but with different instruments at baseline and end-line). Interviews and Focus Group Discussions across the stakeholder groups included head teachers and teachers (on school leadership and support from teachers who mentored).

The project saw very positive student English learning outcomes: a 30% improvement (31-72%) in English reading test results achieved by P5 pupils in treatment schools (almost no improvement in control schools; 7%). However, there were poor results for mathematics with the treatment group scoring less at end-line than at baseline (control increased slightly for P3 but reduced for P5). Head teacher self-reported leadership skills are high. The results of classrooms observations is more mixed with teachers scoring highly for the use of some learner centred methods but low in others (e.g. for group and pair work), with lack of comparability of baseline and end-line leading to inconclusive results. Qualitative data indicate that focus teachers are key to sustaining learner-centred methodology.

In general the study is well designed, but with too few schools and inconsistent basis for analysis (sometimes control and treatment groups compared in absolute terms at end-line, sometimes the change in score from baseline to end-line was compared). There are issues with the reliability of the learning outcomes and classroom observation, which also undermine the results to some extent.

Conditions for success:

This project relied on a number of different stakeholders (teachers, head teachers and SEOs) to engage and commit to different ways of working which were often at odds with the government's focus on quality education through competence based curriculum, improved monitoring and evaluation practices that look at progress and retention. For example, it was noted that the district level focus on access to education presented a challenge. Similarly, there was a reliance on SEOs taking on additional new roles to support and facilitate training for teachers and head teachers when SEOs were often otherwise engaged. Head Teachers also had to get used to their role of supporting their teachers to realise change in their classroom practices. At the same time linking with the roles of existing actors from within the system it is seen as an important condition for success in terms of scale up and sustainability of the model.

Scale up and sustainability considerations

The model presented by VSO outlines an ongoing teacher continuous professional development (CPD) model that is embedded within the existing CPD strategy of REB by using the school as the main location of CPD support. This comprehensive CPD programme uses actors from within the system (SBMs, key teachers, SEOs, HTs, and TTCs) to support (i) the implementation of the new competence based curriculum, (ii) long-term improvement in the use of English language and (iii) competency-enhancing Learner Centred Methodology (LCM). The model includes all aspects of the ALOA pilot project, except the pupil-testing using early grade reading and mathematics assessment (EGRA and EGMA) tests or similar tests, which would be very costly on a larger scale. Additional non-pilot elements are: quality support for teachers to use English effectively in the classroom; and the delivery by Teacher Training Colleges of in-service training to selected teachers who are currently excluded from the SBM programme.

The VSO volunteers (6) will no longer be based in the Districts, which would not be sustainable, but instead at provincial/central level. The package has been reduced and become cheaper but the scale-up document makes a convincing case that this is not expected to lead to a decrease in quality/impact. This model has the potential to go nationwide and be a comprehensive CPD model for the GoR to adopt and roll out in all Districts.

The following observations from the Fund Manager will need to be kept in mind when further reflections and decisions are taken with regard to scale up and sustainability:

- Although the emphasis on the use of English as a medium of instruction is appropriate, there is a need to further clarify the specific support methodologies to be applied with regard to the use of English as a medium of instruction within the wider CPD model. This isn't fully clear from the VSO documents. Experience in the pilot was on general methodology only, and there may be an underestimation of the investment required for support to teachers to teach in English. Further discussions with British Council - STEM are encouraged.

- A bigger emphasis on the blended approach would be welcome - promoting peer learning alongside self-learning, with the use of ICT-enabled self-study materials focusing on improving classroom practice. This use of technology-enabled self-study could be a very cost-effective addition to the model, although VSO emphasises the fact that its model of peer learning only would be cheaper and sustainable for the Ministry of Education to scale up and maintain. The experience of English in Action (EIA) in Bangladesh and STEM in Rwanda show this is possible in cost-effective ways.

- The scale up proposal emphasises the roles of SEOs and Head Teachers in monitoring and School Leadership. Clarity about the roles of SEOs and head teachers is required to ensure these roles are clearly acknowledged to be within the realm of support of 'changing classroom practices'. All aspects of the model need to be placed in the context of CPD while the role of SEOs should be related to supporting HTs, and not supporting teachers directly. HT engagement is critical for any in-service Teacher Training. The role of SEOs and HTs in the competence based curriculum includes supporting school level teacher training, monitoring learning and teaching. The VSO model of using existing people in the system aligns with the government priorities and its approaches to new ways of teaching using learner centred methodologies and monitoring. The change will work well if it is supported at sector level and school level.

- The model may work even better if it supported at least one key teacher in each school (with each SBM covering more than 2 schools) thus increasing the potential of ensuring each school to have a mentor. This also makes the model less dependent on the future of the SBM programme. This decision will need to be taken by REB.

With regard to institutionalisation, the proposed model uses the existing system and already paid for systems actors in potentially effective ways by adjusting their roles and tasks in such a way that they become more effective and empowered. This intervention also provides a response to the current needs of the GoR by implementing the new curriculum and TDM policy, and the need for TTCs to play a bigger role in in-service teacher training.

Although there is a strong focus on the system, there is still a very strongly identified need for continued VSO (or other NGO) involvement. The cost-effective case for this has been convincingly made, but more emphasis could have been given beyond the next 3 years, with GoR taking over implementation and an NGO role in terms of working on system readiness.

Cost considerations
The per teacher unit cost decreases from GBP 410 in the pilot phase to GBP 43 in the scale up phase. This significant decrease is much welcomed but there is a need to consider student unit costs as well. A very strong argument for the proposed model is that this support package will be a replacement of residential trainings, which are less cost-effective in terms of change in the classroom.

The proposed model is more cost-effective and also makes good use of systems actors who are paid by the GoR already. Additional analysis is required of what the budgetary implications are for the GoR if it were to introduce the proposed model as its CPD package embedded within the SBM programme. The cost of capacity building of REB will also need to be included in the calculations.

Immediate next steps
- Influence REB to further optimise the functioning of the SBM programme, finding ways to have each school covered by an SBM.
- Further improve the economic analysis by focussing on this being a GoR-led programme and calculating the implications for the GoR budget. Also, quantify the need for capacity building costs and estimate external financing requirements to make it clearer what alternative options GoR could pursue. Critically, understand what these costs would be set against the anticipated impact of the alternative options (i.e. a fuller VfM analysis).
- Discuss the feasibility and appetite to use the VSO scale up plan as a model for a comprehensive GoR-led ongoing CPD programme through interactions with the TPD Technical Working Group and the SBM Task Force.
- DFID may want to consider funding a comprehensive TPD initiative, such as the one presented in the VSO scale up and sustainability plan, as part of the TA component of its next sector programme
- VSO to play a central role in facilitating discussions with other IfE Grant Recipients working in the area of TPD and assessing opportunities for collaboration, especially with regard to the emphasis on supporting teachers in using English as a medium of instruction.

Overview of the Innovation

The Gasabo School Development Program (SDP) piloted a 'whole District, whole School' approach. It aimed to improve learning outcomes for boys and girls and their greater participation in lessons through more learner centred approaches to teaching in public schools in the Gasabo District of Rwanda. The project simultaneously empowered the different stakeholders (teachers, head teachers, Sector Education Officers (SEOs), local leaders and parents) of the school community for the delivery of quality basic education.

Teacher training in foundational child centred educational competencies was complemented by ensuring educational leaders and the parent community were equipped to provide a framework of support and accountability. The project included the innovative re-focusing of the roles of head teachers and SEOs towards supervising teaching and learning. 'Teacher multipliers' were introduced as peer mentors in schools. These are teachers trained to deliver workshops and provide ongoing support to colleagues on key principles of participation, positive values and cognitive skill development.

The project also provided school and village based training workshops, empowering Parent Teacher Committees and introducing Asset Based Community Development (ABCD) to the parent communities.

The project trained 77 head teachers, 284 teachers and 117 community members directly and reached a total of 59,682 students. The project budget was GBP 270,000.

Grant Recipient:

The project was run by The Wellspring Foundation, an International NGO.

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What makes it innovative?

The project applied an integrated school improvement approach to improve education quality in all schools in Gasabo district. It did so by involving all key stakeholders (parents, local leaders, teachers, head teachers, SEOs, DEO's, Regional Inspectors, etc.) in the intervention. The project introduced a new way of working through teacher development based on participatory values supported by SEOs and head teachers who can identify and support teachers' weaknesses. The teacher multipliers are new roles, enabling individual teachers to become peer supporters.

Relevance to education priorities;

Main theme: Effective teaching and learning

Sub-themes: Accountability and empowerment

The project was in line with the 2010-15 ESSP to ensure that educational quality continues to improve and the focus on decentralisation as part of educational reform. The teacher mentor ('multiplier') element is complementary to the GoR initiative to introduce a cadre of School Based Mentors.

Project learning (activity/output to outcomes level)

- The introduction of teacher multipliers has been a successful and key component of the project. The teacher multipliers received training on several subjects and methodologies and in particular the module on value integration has been core to the project.
- The model lessons provided by teacher multipliers were highly valued by the colleague teachers, as were the feedback sessions on these lessons, which were facilitated by qualified

project trainers.
- The project also successfully provided training to the school communities, notably on Asset Based Community Development. Community connectors were nominated by each community during the training process and they have led the ABCD programmes in their own communities, liaising and communicating with school and PTC leaders. The training included foundational training (sharing stories, asset mapping and developing action plans) resulting in the preparation of action plans.
- According to district and head teachers the whole district approach resulted in a reduced dropout rate (through active involvement of the PTC leaders and community 'connectors'), more all-inclusive learning, and more punctual attendance of children. Moreover, teachers indicated that they performed better as they now do not only address 'fast learners', but also the 'slower learners'. Teachers also noted that lesson planning had become easier.
- A major challenge is that PTC's change every year and hence maintaining continuity is a major issue. Moreover, PTC members are often amongst the most affluent and powerful persons in the community and do not represent the wider community. This is important to take into account taking the PTC training forward.
- The project learned the importance of the use of specific criteria for success and performance for teacher and school leaders in order to achieve impact. Specific criteria will help teachers and leaders learn what to look for in a lesson and how to offer specific assessment and evaluation of practise. This has especially helped school leaders. The Leader's Criteria that were developed under the project provided an important tool and it was the first time school leaders were assessed against any kind of criteria.

Project outcomes and reflection on monitoring and evaluation

The integrated approach, by definition, sees the whole as greater than the sum of the parts so attribution of successful outcomes to an individual component is tenuous. However, the teacher multipliers stand out as most notable success factor with the potential to have the most immediate impact on learning outcomes when scaled up.

The descriptive evaluation design compared baseline and end-line results on a variety of data: student P6/S1 examination results, student completion rates, observations of teacher classroom practice and school development questionnaires for head teachers and teachers. These were supported   by qualitative interviews with teachers and head teachers.

The results show significant improvement in teachers' classroom practices across all the indicators (e.g. participation, positive values); qualitative findings suggested that there had been a very positive response by teachers to the teacher multipliers but also that the latter's impact is variable and depends on the support of the school leader. The conclusions claimed improved P6 results and retention, but with no supporting data, which was due to unforeseen circumstances beyond the control of Wellspring.

The intervention in Gasabo showed the value of classroom participation by students. There are also positive results reported on the various individual elements of the project, such as values training and parental involvement.
The study is generally rigorous and transparent, but weakened somewhat by sampling problems and lack of statistical testing of differences between baseline and end-line.

Conditions for success

This project's evaluation highlighted the importance of a realistic timeframe to achieve the desired results. Time is needed for significant change to come about in the classroom, especially in relation to changes in both behaviour and attitudes across stakeholder groups. In the long-term, there is a key learning about the potential for peer learning as an integral part of a wider teacher professional development package.

Another crucial factor to successfully implement and sustain the programme is developing the role and commitment of the head teachers. When the head teachers are active and build and use their leadership skills, the sharing of practices among teachers increased - resulting in consistent improved school performance. Otherwise, there is a risk of pockets of change in a school, leading to confusion, rather than whole school change.

Targeting and empowering all education stakeholders at decentralised level viz. parents, local leaders, teachers, head teachers, SEOs, DEO's, and Regional Inspectors, and linking their training, is a very intensive support model. Such a resource-intense model can only work on a nationwide scale if it is adopted by the government as its preferred professional support model at decentralised levels.

Scale up and sustainability considerations

The Wellspring programme is a resource-heavy and support-intensive school improvement programme as it maintains an integrated approach involving all key stakeholders at decentralised government levels.

Four proposed options for scaling-up were presented: (i) national scale up of the entire programme through the school based mentor (SBM) structure; (ii) replicating the intervention in one other district, (iii) scale-up through strategic partnerships with NGOs aimed to deliver specific components of the programme (e.g. the leadership and/or parental component) in an additional 100 schools across a range of Districts, and (iv) scale up parts/aspects of the innovation on a nationwide scale. The various scale-up options all have different impact on: (i) reach, (ii) costs, (iii) sustaining the intervention through government structures, and; (iv) potential impact on learning outcomes.

National scale up (option 1) would have the largest reach at lowest cost per learner with the greatest potential for embedding the intervention in the formal structures (first 3 criteria).

Nationwide scale-up will require strong leadership and ownership from REB/MINEDUC and excellent coordination with MINALOC.

It is likely that transferring the intervention to one additional district (option 2) would yield the highest impact on learning outcomes since it will ensure higher levels of direct support through the continued involvement and technical assistance from Wellspring, but impact on national figures may be limited due to the concentrated model.

Options 3 and 4 are about replication of certain elements of the programme (e.g. integration of values ; lesson observations; school leadership training; peer learning as part of a teacher professional development model; sector based learning, and community involvement) in target districts or nationally. However, there are indications that the strength of the innovation lies in the integrated nature of the whole school approach, where different components work together to improve the quality of education at the school level. Taking out individual elements of the overall package may lead to a disproportional loss of impact of the intervention. In resource constrained situations, these options could be considered, realising that additional testing of these new packages will be needed (as this is not the model tested in the IfE pilot).

If funds are available, national scale up may be the desired option. However, in addition to the high costs there are a number of systemic risks involved and this option requires involvement of a strong cadre of committed national trainers from within the system (Teacher Training Colleges, College of Education, Senior Mentors, and/or lead multipliers). In order to prepare the government for taking on this role, initial support by Wellspring may be needed in relation to content, and especially in terms of process management and working on 'system readiness'.

DFID or other development partners may want to consider funding the first stages of scaling up the 'Gasabo model' as part of a capacity strengthening initiative at decentralised levels.

Cost considerations

National scale up (option 1) provides the lowest unit cost of US$1.80 student/year, while national scale also provides a pathway for institutionalisation as it works through the existing government structures. An important consideration for this option is the overall budget envelope amounting to approximately US$ 8 to US$ 12 million over 4 years. This is a substantial sum to invest, and complete hard quantitative evidence on the success of the approach has not been collected yet.

Overall, the economic analysis provides a good comparison between the different options, but could have been stronger by also comparing unit costs of similar programmes implemented elsewhere. Moreover, the project could have been more specific about the added value of the proposed US$ 8-12 million investment with regard to anticipated improved practices for teachers and learning outcomes for students, especially if compared to alternative approaches.

Immediate next Steps
- Disseminate project findings with GoR and partners and identify the needs for the collection of further evidence
- Continue the scale up and sustainability discussions with REB, present scale-up budgets and cost/benefit analysis, with REB to decide whether it would like to adopt the whole District, whole School model (scale-up option 1 or 2), or aspects of it (scale up option 3 or 4)
- As part of its advocacy efforts, Wellspring to facilitate the publication of a document defining the key elements of a good school improvement programme and advocate for systemic change, based on the learnings from the pilot innovation
- Continue Wellspring's advocacy role through RENCP and various education sector working groups to see the 'voice' of civil society unified and strengthened in Rwanda in relation to change in, and support for, delivery at decentralised levels (District, Sector, school).
- Continue supporting the new competency-based curriculum and training thereof, ensuring that the learning from the IfE pilot will influence the curriculum implementation process.

Inclusive Education Partnerships for Awareness-raising Consultation and Training (IE PACT)

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Overview of the Innovation

The project aimed to improve the skills of pre-service and in-service teachers to practice inclusive education in the classroom. The intervention targeted (i) Teacher Training Colleges (TTCs) and their training of pre-service teachers and (ii) 40 primary and lower secondary schools promoting appropriate teaching methods and relevant educational tools for inclusive learning with in-service teachers.

The project also planned and implemented a strategy which brought together parents, teachers, children and health workers to make the schools and classrooms more inclusive for children with disabilities.

It was implemented in the four districts of Rusizi, Nyamasheke, Karongi and Rutsiro and reached 56 TTC tutors and an additional 80 teachers. 1,462 students with disabilities were reached.

Total project budget was GBP 621,411.

Grant Recipient:

The pilot was managed by the Adventist Development and Relief Agency, Rwanda (ADRA Rwanda) in collaboration with Handicap International, an International NGO.

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What makes it innovative?

This project promoted a new way of working in Rwanda by identifying and building partnerships across the home, school and community to make educational experiences of learners as inclusive as possible and aiming to reduce dependency on NGO involvement.

Relevance to education priorities:

Main theme: inclusive education

Sub theme: skills development

Special needs education is a cross-cutting priority for the education system (ESSP 2010-15

Project learning (output/activity to outcomes level)

- Engagement with parents and wider communities at grassroots level was important to make sure children with disabilities entered school, with further support provided by these communities being necessary for the continuing education of the children.
- Although activities were planned to happen at community level and despite ADRA's good management of activities on the ground, difficulties presenting and discussing the project at higher conceptual levels, and providing a vision of how to gradually increase Ministry ownership over time and embed interventions within GoR systems, have seriously limited the potential for long-term impact of the innovation.
- The teacher training component was implemented through TTCs, under the overall supervision of the College of Education. 16 tutors were trained, who trained 40 peer tutors, who in turn trained 80 teachers from 40 schools. This required a high level of pedagogical expertise and appropriate training materials that can be used by the trainees. It will be important that the GoR has the technical capacity to sustain the fundamental educational demands of teacher training in the future.

Project outcomes and reflection on monitoring and evaluation

The evaluation has a variety of different foci. It is built mainly on a single questionnaire administered at baseline and end-line. The respondents to the questionnaire are head teachers and teachers, with interviews of TTC tutors and SEOs, and Focus Group Discussions with parents and students. In addition data on enrolment, retention and participation of SEN children were collected but the data sources are unknown.

The multi-stakeholder, participatory approach led to a significant increase in enrolment for children with disabilities with 1,223 children enrolled across the 40 schools (473 at baseline). 68.75% of in-service teachers stated that they had used some inclusive principles in the classroom while the 16 TTC tutors stated that they had learnt inclusive methods with 90% confident to train pre-service teachers (there are no baseline data).

The evaluation is weak with no clear focus, no validity, and no proven reliability of the instruments. The evaluation reporting is poor and lacking transparency. The evidence is therefore not a good basis for decision making.
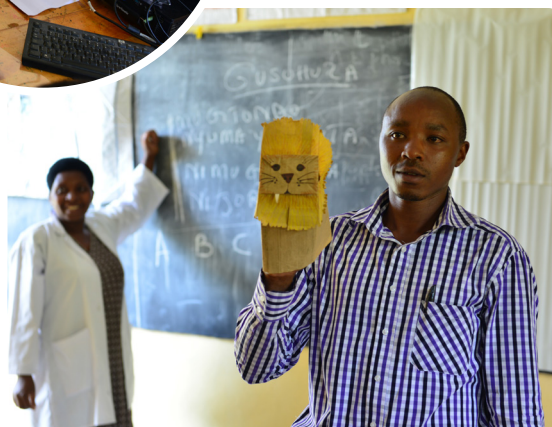
Conditions for success

There was very little written about the processes of innovation encountered by this project making it difficult to assess the conditions for success. There are suggestions that engagement of multiple stakeholders – parents, learners, education officers, TTC tutors, teachers and head teachers – is a key issue to ensure 'buy-in' and effective delivery of the innovation. The government would need to develop the capacity to take over the connector role with stakeholders, currently played by ADRA, to achieve the intended reduced dependency on NGOs in the inclusive education sub-sector.

Scale up and sustainability considerations

How to sustain the intervention is not clear from the scale-up and sustainability plan provided by ADRA. The project merely highlights a large number of stakeholders that will need to be involved when scaling up and transferring the project to the government.

It is also not clear whether the project implementers captured any learning from the pilot project that could support scale up and sustaining the intervention. Moreover, no indication is provided how the project is advocating/influencing scale up and institutionalisation issues with MINEDUC/REB.

Institutionalising the work of this project appears to focus on the TTCs and integrating inclusive education content in the TTC programmes. However it remains unclear how this is going to happen or how TTC staff will support in-service teachers. There is also no reference to the new cross-cutting area of 'inclusive education' in the new curriculum and how MINEDUC/REB could be supported to implement the new curriculum.

The project makes a major case for strengthening the role of the Special Needs Education Coordinators (SNECO), who reported to DEOs during the pilot, but fails to explain how these have been involved and supported in the pilot project. Moreover, the SNECO position was created for the specific purposes of the pilot project and is not a formal government position - and to our knowledge there are no plans of the government to create such a position.
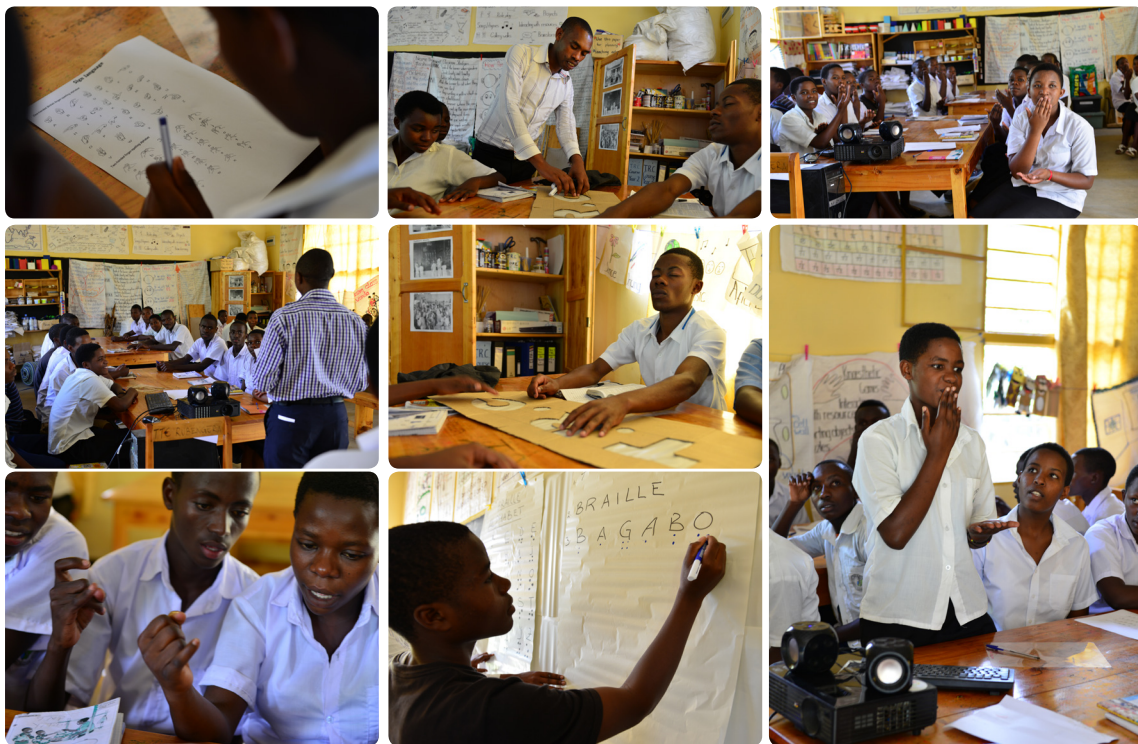
Although reporting on the intervention is not strong, the component that could qualify for scale up is the field-based implementation component of the project, which is stronger than the reports suggest. In particular the community engagement element of the project has potential to be scaled up in adapted forms, led by the GoR.

Cost considerations

No economic analysis has been undertaken by the project.

Although the project makes some generic statements about (i) inclusive education will need to be integrated into the existing curriculum, and; (ii) special needs education needs to be integrated in teacher training institutes, no specific project analysis has been made to support this

Immediate Next Steps

- As the work with communities is seen as the strongest component, and this is resulting in higher enrolment in schools of children with disabilities as well as the continued active engagement of these communities to support the school experience of the children with disabilities, there is a need for further discussions with MINEDUC and REB on how to sustain these field-based activities, with a key role for decentralised level GoR staff.
- ADRA to share the findings of the project with REB, College of Education (CoE) and development partners and make a case for continuing teacher training on inclusive education and making it an integral to the TTC programme in all TTCs in Rwanda
- Budget is required for this, preferably from government but otherwise through external funding.

UKaid
from the British people

Overview of the innovation

This project developed and tested a set of national standards for the education of children with disabilities and other special educational needs (SEN) to provide a framework for quality inclusive education. In the long term, it was hoped that the common set of standards would enable better retention rates, improve learning outcomes and improve post-primary transition for children with SEN. At the local level, parents, learners, teachers and head teachers were involved in 24 schools across the districts of Kamonyi and Rubavu. A broad package of support was provided in these 24 schools, including (i) support to schools to create a supportive physical school environment for children with disabilities, (ii) community outreach work to make sure children with disabilities go to school, (iii) development and monitoring of individual learning plans for children with SEN, (iv) support to teachers to address individual learning needs of children with SEN in mainstream classrooms, (v) assist parents to support the education of their children and to engage in education friendly income generating activities to help cover the additional expenses for the school, (vi) provide other support and tools to children with SEN.

The HI project reached 37,391 primary students and 642 teachers and 362 parents were trained through the project.

Total budget was GBP 578,691.

Grant Recipient:

The project was led by Handicap International, an International NGO, in collaboration with Voluntary Service Overseas, another INGO.

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What makes it innovative?

This approach had been widely implemented by Handicap International in 17 countries across Sub-Saharan Africa, East Asia and South-East Asia. However the approach for developing and introducing national standards for inclusive education was new to the Rwandan context. The national standards were combined with support for the application of these standards in a number of pilot Districts.

Relevance to education priorities:

Main Theme: Inclusive education
Special needs education is a cross-cutting priority for the education system (ESSP 2013-18).

Project Learning(activity/output to outcomes level)

- Teachers who teach in pilot classrooms clearly try to apply the skills they acquired during their training and try to address the learning needs of children with SEN in various ways. Working with individual learning plans provides a strong element in dealing with the individual learning needs of the students.
- Parents and stakeholders from the wider community are very much involved in the programme, and have a real focus on improving the learning experience of their children.
- The schools participating in the pilot support the inclusion of children with SEN in their schools with great commitment and enthusiasm, even if the intervention clearly resulted in a disproportionally high number of children with special needs enrolled in the schools. This is a very positive outcome but it raises some questions about whether the pilot schools can maintain this absorption capacity, and whether this may be to the disadvantage of the

- students without special learning needs.
- In fact, the project at the school level has the potential to go beyond children with disabilities only, as the methods are focused on helping teachers to deal with individual learning needs of their pupils, which is relevant for all children in a school.
- The project worked well with REB during the pilot, with a need now for HI's role to evolve from implementer to capacity builder of GoR institutions. HI must develop a vision around this.
- The support package at the school level is broad in scope and intense in terms of external support needs. The question is how this can be delivered without NGO implementation and budgets.
- The development of the norms and standards at central level appears to be disconnected from the resource intense support package at the school level, and there would be benefit in the school-based work being presented more clearly as the logical result of the central-level work.

Project outcomes and reflection on monitoring and evaluation

The evaluation design is descriptive with baseline and end-line, with a questionnaire being used for teachers and head teachers and unknown data sources for enrolment, promotion retention and repetition of children with disabilities and SEN children. Focus Group Discussions were used to evaluate parent and pupil understanding of inclusive education. Through questionnaires, interviews and focus groups with key stakeholders, it emerged that parents, teachers and REB inspectors were in support of the new standards. 85% of teachers and all REB inspectors stated that the standards were both accurate and applicable. Interaction with REB was important for securing this support. All teachers stated that they felt supported by headteachers in applying the standards in their teaching. They also report improvements in their practices. Community engagement was mainly responsible for the large increase in the number of children enrolled in the 24 schools with 1,296 children enrolled by the end of the project (380 at baseline). This is a poorly designed evaluation with instruments that have no demonstrated validity and reliability, and with data reported in an unclear fashion. This undermines the claims of the report.

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Conditions for success

There was very little written about the processes of innovation encountered by this project making it difficult to assess the conditions for success. However, it seems that the successful implementation of this project relied upon the involvement of stakeholders at all levels, from the national, district, school to the family. In developing the national standards, there was significant advocacy work needed across these levels for defining and shaping the tools. Building a meaningful conversation between the different levels is difficult and relied on substantial input from the project team. The ability of REB to take on this connector role will be a scale up issue.

Scale up and sustainability considerations

The model that has been implemented by HI in the pilot context has been adapted for scale-up by reducing the intensity of the package and adjusting the roles of the many actors. If the next stage will be 'project-based', the model can indeed be implemented in other geographical locations. However there are still concerns, mainly about:

The unclarity about what the scale up model entails exactly. The documents set out four scale-up pillars (i) institutionalisation, (ii) capacity development, (iii) application of Standards, Tools, Roles and Norms (STRN) and (iv) class supervision, but these are not consistently used throughout the analysis, which makes it difficult to gather what exactly is planned to be scaled up (i.e. what the model is). It is also not clear how the four pillars will be linked together. This lack of conceptual clarity will need to be further addressed. One suggestion to simplify the approach to scaling up could be to look at the initial pilot structure of (i) STRNs and their formal adoption within the system and (ii) the actual delivery at decentralised levels, being presented as the actual application of STRNs, within the selected locations.

There still appears to be a wide range of activities that need external support, at relatively high cost. There is a need for more reflection on what is feasible in the short run, as well as on a long term sustainable basis.

A strategy on how to increase systems involvement over time will be useful. In terms of future institutionalisation within government, the innovation builds on excellent cooperation with the GoR and shows a commitment for GoR actors to be involved and for HI to take a different role. This focus on the system and actors from the system is good. A process view is required in terms of achieving the required system readiness and systems strengthening.

The difference between reaching all Districts over a certain time period and the longer term sustainability beyond the scale up phase needs further analysis to determine what the GoR will need to sustain after having ensured the required reach. This vision for long-term sustainability should inform the immediate next steps.

Finally, given the ongoing discussions between HI and UNICEF Rwanda there are real opportunities for this innovation to be scaled up, or at least to move to the next stage of piloting an adjusted implementation model in an increased number of geographical areas, based on the learning from the IfE pilot.

Cost Considerations
It is good that the economic analysis indicates that the model is lighter than the pilot model and referenced to the numbers of beneficiaries to be reached. However, (i) it still requires major resources and (ii) the analysis is not linked to anticipated outcomes. It needs to be clear whether there is any expectation of 'diluted impact' due to a changed model.

At the moment the HI economic analysis reads too much as a project budget with some indications of efficiency and effectiveness. More in-depth analysis of unit costs per school/teacher/student is required. It also seems expensive at more than GBP 800,000 for the first year and GBP 1,800,000 for 3 years.

There is need to reflect on the implications for the Government, if scale up should take place with increased levels of GoR ownership: what will be the costs to the system and what are the implications for anticipated budgetary decisions to be made by MINEDUC/REB?

Immediate Next Steps
- Ensure the full adoption of the – possibly adjusted - norms and standards by REB and make sure that field-based activities effectively implement these national standards.
- Continue the discussions with UNICEF about scaling up the IfE pilot through an adjusted package based on the learning from IfE. Specific attention should be given to: (i) MINEDUC/REB ownership and the implications for the role of HI, (ii) budgetary issues, (iii) the scope of the model as far as school-based activities are concerned and (iv) the capacity and budget of the government to sustain such an intense support package in the long run (need for prioritisation).
- Implement the new project with UNICEF support and with full ownership of the GoR.

INNOVATION FOR EDUCATION | Sustainable Investments in Students, Parents and Educational Institutions in Rwanda

Overview of the innovation

This project provided loans and financial training to low-cost post-basic private schools, low-income parents and their children. At the school level, there was training for the Head Teachers in financial management and school improvement loans were provided to provide better facilities and offer better quality education to the teachers and students of these low-cost private schools. School fee loans were provided to 5,000 parents to help them ensure their children to access and stay in school. Moreover, learners at 24 schools were given financial education, school saving clubs were set up and the learners opened their first saving accounts.

The project was implemented in the districts of Nyarugenge, Gasabo and Kicukiro (Kigali), Musanze (Northern), Bugesera (Eastern) and Muhanga (Southern).

A total number of 33,050 students benefitted from various components under this project and the total budget was GBP 609,997.

Grant Recipient:
The project was implemented by Urwego Opportunity Bank of Rwanda Limited, a microfinance bank.

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What makes it innovative?

While this programme had been piloted in Ghana and Uganda, the concept of providing loans for access to low-cost private schooling was new to the Rwandan context. An important aspect of the innovation was in the comprehensive package of providing loans to parents for school fees, loans to school proprietors for school improvement, and financial literacy and skills training for students. Such an education loan package did not previously exist in Rwanda.

Relevance to education priorities:

Main Theme: Inclusive education;

Sub-theme: Accountability and empowerment, skills development

The 2010-15 ESSP includes plans for the expansion of a sustainable student loans system for learners in low-income families to access post-basic education. The project supports this and makes a case that the loan facilities also ensure children stay in schools, which supports the priority area of preventing drop out, and ensure access to good quality education, which is the overall aim of the ESSP.

Project learning (activity/output to outcomes level)

- Parents confirm that they could not afford to have some of their children enrolled in school and they would have dropped out if the UOB loan would not have been available. It is not clear whether this would mean complete drop out of the system or a transfer to a public school
- Providing school fee loans through group lending, i.e. loans are only provided to parents who are part of an existing micro-loan group, was a viable risk mitigation strategy – as well as a market differentiator - for UOB
- The flexibility in the use of the school improvement loans at the discretion of the school proprietor was appreciated. Examples of use of these loans were school construction and the purchase of science kits.
- The school proprietor training is a requirement of the bank and considered very useful by the

school proprietors with its focus on accounting and loan management

In terms of challenges faced, the following was mentioned:

• UOB has good connections with DEOs and SEOs, but lacks good engagement with MINEDUC central level. The question remains how strong the need is for MINEDUC to be centrally involved

Project outcomes and reflection on monitoring and evaluation

This was mainly a descriptive study though there are treatment and control groups with baseline and end-line using survey data, but with incomparable samples. It mainly uses surveying of attitudes and behaviours of school proprietors, teachers, and parents. This was accompanied by interviews of proprietors, teachers and UOB officials along with Focus Group Discussions with students.

The project evaluation showed that school proprietors were more confident in the financial sustainability of schools. There was also a decline in the percentage of parents citing financial barriers/poverty as a reason for child dropout (50% of those who received loans cited poverty as the reason for drop-out down from 83.2% in the baseline). The fact that the implementation of the different elements of the project (school fee loans, school improvement loans and financial education) were not connected prevents relationships among them being examined (those within each element are noted in the previous section).

The programme was successful for learners with 72 student saving clubs set up with 4,888 learners receiving financial education and a total of 3,785,236 Rwandan francs saved through student savings clubs. There is qualitative evidence on their attitudes to saving but with no strong differences from the control and treatment groups.

Despite full reporting of an extensive amount of data the results were undermined by: evaluation design problems; a lack of transparency of the link between data and instruments; questionable validity and reliability of the instruments, and poor focus of the report. UOB indicated it was very difficult to procure the right skills locally to operate a high-quality baseline study.

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Conditions for success

This project showed that there is parental support for school fee loans to allow learners to access low-cost private education. The successful implementation depends on some attitudinal changes at school, district and national level about the role of microfinance institutions in providing school loans.

Another, potentially more problematic condition from a policy and political perspective, is the success of low-cost private schooling being the result of a perceived failure of public schooling in terms of their accessibility and quality, which sustains the low fee school market. If and when public schools (are perceived to) get better the private market may contract. The flip side of this is that if the situation continues to remain the same, there may be a 'crowd in effect': other banks will start offering similar products as they prove commercially viable.

A final condition for success is related to the level of interest and support from the government and donors for low cost private schooling and Making Markets Work for the Poor (M4P) approaches. Lessons could be learnt from Nigeria and Pakistan. On the other hand, given examples from around the world where public education has improved, there do not appear to be significant drops in demand for the low-cost private sector, as certain conditions are permanent and exclusive to the private sector in the short- and medium-term – increased family-level engagement, greater teacher motivation, higher time on task, and improved infrastructure. The greatest risk in Rwanda is around the treatment of private schools and the success of scale up will depend on the legal and institutional space allowed by the government.

Scale up and sustainability considerations

The scale up model presented by UOB is a model that continues to provide school fee loans and school improvement loans, while adding an additional element to the package (that may need further testing), i.e. tertiary tuition loans. The proposed scale-up plan includes training for school proprietors as integral to the school improvement loans but the student financial education component is deleted from the UOB package. Based on the proven success of the model and the adaptations made, UOB has a business case to scale up its school loans package, including the training, without further dependency on external funding. Replication and scale up are thus likely to happen and are anticipated to be financially sustainable. One of the identified risks is that piloting took place with trust group members (for school fee loans) but in scale up this will be broadened to individuals. It is not yet known how that will work, but UOB will be well able to

assess and manage that risk.

It may be defendable for a bank to take out the unprofitable financial education component but as it was part of the pilot package (to meet education quality improvement objectives) there is still need for a better VfM analysis within the project context. The justifications for dropping the student financial education component from the package can inform future decision making around this type of intervention. The case for financial sustainability has been convincingly made but there remains a question about sustainability in the longer term: what happens after five to ten years – is there an ongoing market?

Finally, in terms of policy and institutionalisation issues, the case for involving GoR could be made more strongly. The question is how important the involvement of MINEDUC is and whether UOB is only interested in them as a 'guarantor' or also as a 'provider of credit support'? The question is whether this is realistic, desirable and would fit within the GoR mandate and budget. MINEDUC's move towards the private sector with regard to tertiary student loans may provide interesting parallels, with possibly more of a broker/facilitator role for government. Additional analysis may be required with reference to experience in other countries, especially where financial services providers have been encouraged to expand in to the low cost private school market. At the same time, it is well understood that it has proved very difficult for UOB to have meaningful dialogue with MINEDUC to discuss possible partnership, which would have allowed UOB to advocate for the need and potential for scale.

Cost Considerations

The economic analysis for this innovation is exceptionally strong and sets the scene for the future very clearly. The good news is that the majority of products, especially when seen as an overall, integrated package are financially sustainable without further external funding and offer VfM. The profit and loss projection for the next two years is as follows:

- Anticipated number and value of school fee loans: 8000 loans, with total value of RWF 536,000,000
- Anticipated number and value of school improvement loans: 48 loans with total value of RWF 643,200,000
- Anticipated number and value of tertiary tuition loans (not part of the pilot package): 100 loans, with total value of RWF 33,500,000
- Total anticipated costs for school proprietor training: RWF 6,700,000

This is expected to result in a net profit of RWF 4,320,642 over the next two years. This represents a return on equity of 0.36%" and it needs to be realised that the margins for such a social portfolio are not high.

Scale up and sustainability is not dependent on Ministry financial contributions, but it will be important to make sure that the Ministry is involved in terms of providing the legal and institutional space.

Immediate Next Steps

- UOB to finalise the process of incorporating the school fee loans, school improvement loans (including training) and tertiary tuition loans in its overall product portfolio, and take these to scale without external funding. This does not rule out the potential of additional funding, which could be used to scale up more rapidly.
- UOB and MINEDUC, with DFID support, to look at lessons from other countries' experience in low cost private schooling and M4P.
- DFID and possibly other donor agencies to follow the roll out of the school loan package and see what wider lessons can be learnt from Rwandan experiences with private sector education lending and low cost private schooling.
- UOB to get the Ministry engaged in terms of thinking about wider sector impact of loans and get clarity from Ministry what role it is able and willing to play.

Overview of the innovation

This project delivered a teacher self-study programme through the use of audio-visual materials made available on iPods and linked with teacher peer learning through teacher reflection groups. This 'blended approach' to teacher professional development aimed to improve the quality of teaching in primary 5 and 6 science and English classes. The video materials focused on developing skills for learner-centred methods by showing models of good classroom practice, improving knowledge of the subject content, using appropriate technology, and English language development. It was intended that, by the end of the project, science and English teachers would develop their knowledge and skills for teaching with subsequent impact on children's learning outcomes.

The project trained 158 teachers, reaching 6,563 students in Bugesera and Nyaruguru Districts.

Total project budget was GBP 661,778.

Grant Recipient:
The project was implemented by Plan International, Rwanda in collaboration with Education Development Centre (EDC/L3).

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What makes it innovative?

The project was innovative through its delivery of a 'blended approach' to in-service teacher professional development using a combination of audio-visual content via new technology for self-learning, and peer learning through teacher reflection circles.

Relevance to education priorities:

Main Theme: Effective teaching and learning

Sub-theme: Use of appropriate technologies
The project was closely aligned to the ESSP and the focus on improving quality of education - 'the major challenges for this ESSP period will be ensuring quality and equity in education and training throughout the system...and ensuring that teachers and learners will become fully proficient in English' (ESSP, 2010).

Project learning (activity/output to outcomes level)

- The importance of peer learning was increasingly recognised during implementation of the pilot and a much stronger focus on teacher reflection circles complemented the original self-learning through technology. This is a good example of adjusting a methodology based on learning from implementation
- Teachers were frequently using their mobile devices to watch the videos with good teaching practices, which they could apply in their own classroom. The teachers appreciated the ability to learn 'anytime, anywhere', giving them control of their own learning process.
- There was an unanticipated additional use of technology: teachers used the mobile devices for "peer videoing"; the videos were subsequently used as a valuable input for reflection on each other's teaching practices
- Lead teachers were appointed to support the organization of peer reflection group sessions. The existing School-Based Mentors (SBMs) could have been more engaged during pilot implementation, although many of them did support lead teachers during pilot implementation.
- There is a case to be made for the use of cheaper mobile phones instead of iPods.

Project outcomes and reflection on monitoring and evaluation

The quasi-experimental approach (control and treatment groups of teachers investigated at baseline and end-line) was affected by other interventions contaminating the impact and causing problems in sampling, which complicated the analysis. Teachers were tested in English and science, self-assessed their English language proficiency, and were surveyed on their adoption of learner-centred classroom methods. Student learning outcomes were based on P6 national examination scores averaged at school (not class) level. Qualitative interviews were conducted with a variety of stakeholders to provide an explanation of quantitative results.

There was no evident difference between the control and treatment groups in teacher tests of English or science, though qualitative data indicated some increase in language confidence. Science teachers in the treatment group showed a shift in their self-reported use of learner-centred methods. Student learning outcomes in science indicated a small improvement for the treatment group but, because of the design and sampling problems, this could not be attributed to the intervention. The assumption in the ToC of the link between enrolment in the project and improved teaching skills is not borne out, and it seems that the role of peer discussion may be more important than the demonstration of techniques on video in enabling teachers to implement the new teaching methods.

However, as indicated the study suffered problems of design and sampling that made attribution and analysis of the results difficult and posed serious threats to the confidence in the results. However, the study was conducted with admirable transparency and good attention to the validity and reliability of any conclusions that were drawn.

In an additional case study conducted by Plan Rwanda about project effectiveness, interviewed teachers who attested to having benefited from the project in improving their English language proficiency and teaching methodologies. Almost every teacher said that they used more group work than before. Some commented that before the intervention they thought that interacting with the content would be time-consuming and difficult to manage but, by looking at the videos and by seeing how model teachers conduct their classes, they found effective ways of managing the class and involving all students.

Teachers' quotes from Plan's recently conducted case study: "Before I had many problems in teaching English and felt ashamed to speak – I had many difficulties in pronunciation. Now I have more confidence, and have improved from the teacher videos" (female science teacher) and "We use group work – we give learners time to explain what they have learnt and what they think" (female science teacher) and "We now use discussion to help learners develop their own critical thinking skills" (male English teacher).

Conditions for success

The main condition for success was teacher time and commitment to engaging in the self-learning and peer reflection groups. Teachers' engagement in self-learning was sometimes affected by inconsistent internet connectivity and lack of confidence in using iPods. At the same time, at school level, the project saw teachers very committed to their teacher reflection circles - learning from each other and improving their practices from peer critiques and sharing.

The long-term success of the innovation depends upon leadership within MINEDUC to promote the importance of continuous professional development and the potential of a blended approach for this.

The support and motivating roles of REB, DEOs and SEOs are crucial and an important condition for success during possible scale up. The role of head teachers and SBMs to encourage and support change in teaching practices to take place is equally important.

Scale up and sustainability considerations

The model presented is, in fact, for exact replication of the proven pilot with the core elements well described and discussed in the PLAN document. The intervention will remain active only in the schools it worked in during the pilot already, while expanding to other grades. It is very good that the core elements of the model are kept the same (the elements of peer support, teacher reflection circles and technology-supported TPD) as they have proven to work (as also confirmed by international research). It is also good that there is space for REB leadership and opportunity for REB to gain experience and capacity using the already established studio facilities at REB to create new teacher professional development videos for the same subjects, but in new classes/ grades.

However, there are some questions about the actual REB commitment to be part of scale up and play the role assigned to them by PLAN. Moreover, it would be good to analyse the need for continued involvement of PLAN in terms of coaching and guiding REB. Currently, the PLAN document does not say anything about that, although Plan is committed to this. There are also questions as to how to get the decentralised level actors involved and engaged, with their capacity being built over time. This needs better analysis and process planning. There will also be a need to consider head teacher support, which international evidence suggests is critical, as well as the role of SBMs. There may be an issue of existing teachers having to go through the same programme again next year and the impact this will have on their continued motivation, even if content is renewed.

A major concern is the lack of a long-term perspective or trajectory for scale-up presented in the Plan document, and therefore little chance of diffusion and wider adoption. The pilot is seemingly stuck as a 'boutique' project with no real future growth planned. It is not clear whether PLAN thinks this intervention can never operate at large scale, or whether it is a matter of external funding not being available, or because there is value in moving slowly.

A suggestion for an alternative approach, which would speed up the potential for wider systemic use and adoption, could be to radically change the TPD content while keeping the same elements of the support model. The TPD modules could present particular aspects of more general teaching methodology through video models of good (and bad) practice, using examples from the (new) curriculum content, to help teachers understand and practice improved pedagogy. This content could work across grades and then be made available to a wider range of new teachers. Alternatively, the tight links with the curriculum could be kept, and the next year(s) used to invest

in developing content for all grades in primary in order to more quickly reach a stage where REB has TPD content for all primary levels. Regardless of the choice, a focus on the longer term and sustainable, larger scale up is required.

Finally, a broader consideration of GoR systems would be useful, such as a discussion of the key ingredients of the TSLA intervention that REB would need to integrate in its own future TPD programme for meaningful professional development of teachers, even if TSLA itself was not scaled-up. It is worth thinking through how the TSLA intervention relates to other efforts in the TPD arena, such as the implementation of the new curriculum and the TDM policy, and how it could link to other initiatives by REB and by others (e.g. other IfE projects, JICA). Further opportunities for wider use of technology in schools need to be explored. TSLA cannot operate in a vacuum!

Cost Considerations

The economic analysis is clearly meant to have as much Ministry/systems ownership as possible with budgets that are feasible for the Ministry to manage. The efforts of PLAN to make this a Ministry-owned initiative are commendable. However, there are remaining questions about institutionalisation, including Ministry ownership, and, more specifically, about commitment to investment in the technology and human resources. This needs to be part of the strategic discussions, as these are rather major assumptions. The question is also whether the Ministry staff included in the proposed budget will be sufficient for achieving and sustaining success.

Again, a significant observation is that the planning only covers a period of one year (at a very reasonable amount of total GBP 33,000 for this year), with no idea about 'what happens next' and what that means in terms of costs.

The key cost drivers have been discussed (technology, staff). The unit costs could have been given more attention. At a minimum the 'costs per student' should also have been given, as well as a discussion of costs in relation to impact, using evidence from the project. This would include the important Value for Money argument for scale up of this approach.

Experience elsewhere has shown that a model combining autonomous learning through technology with peer learning, as TSLA does, is more cost-effective than taking teachers out of the classroom and bringing them to a centre for multi-day training. Using mobile devices is also widely considered much more cost-effective than other forms of technology (e.g. language labs).

Immediate Next Steps

- PLAN to continue conversations with REB and get a firm REB commitment that this is what REB wants as part of the implementation of REB TDM policy and its country-wide in-service teacher training programme in the future. The involvement of the TWG on TPD will also be critical. Lessons learned from REB's current programme for training teachers on the new curriculum will also be helpful in informing the development of a long-term strategy for teacher CPD.
- If REB is committed, it will need to find money from within its budgets to support the development of further content to be made available to a wider group of teachers.
- As part of its advocacy, PLAN needs a strong advocacy paper that supports the blended approach to TPD, with a specific focus on the value for money aspects of enabling technologies for TPD.
- Link with the STEM initiative implemented by the British Council, which follows a similar support model that focuses on the use of English as a medium of instruction.
- MINEDUC/REB as the Hub for Innovation to explore and broker possible relationships with private sector and NGO providers of ICT goods and services. Links will need to be sought with USAID's Global Development Alliance which is actively exploring opportunities to leverage the resources of the private sector to help meet common development objectives. See: http://www.usaid.gov/work-usaid/get-grant-or-contract/opportunities-funding/global-development-alliance-annual-program

Overview of the innovation

This project trained teachers through workshops, and also trained four academic staff at the College of Education, University of Rwanda to teach a future B.Ed. programme in teacher-librarianship at the College of Education (CoE). The objectives were to promote a reading culture and information literacy in all Rwanda's schools by having teacher-librarians supporting the development of strong school libraries and the use of information resources in the classroom. This will not only increase literacy and reading for pleasure, but will also enable teachers to use a wider range of resources in class using learner-centred approaches to teaching.

The project was implemented in Nyagatare, Karongi, Rwamagana, Nyamagabe, Rubavu, and Gisagara Districts. The project trained 90 Teacher Training College (TTC) tutors and 405 school teachers benefitted from the innovation in 21 schools.

Total budget for this innovation was GBP 261,206.

Grant Recipient:
Information Training and Outreach Centre of Africa (ITOCA) in partnership with the University of Rwanda's College of Education and Syracuse University's School of Information Studies.

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What makes it innovative?

The innovative element of the project is the introduction to Rwandan schools of the concept of teacher-librarians trained to help learners acquire the habit of reading, help learners and teachers find and use information well, and manage school information resources. School libraries and individual teachers responsible for and trained in librarianship are rare in Rwandan schools.

This new role is linked to an anticipated change in teaching and learning practices in which students will become more independent learners who are able to use information resources effectively and who develop the habit of reading.

Relevance to education priorities:

Main Theme: Effective teaching and learning

Rwanda's Vision 2020 provides the aim of becoming a 'knowledge society' and trained teacher-librarians support this by creating an environment of intellectual curiosity and reading from the earliest levels of schooling.

Reading to improve literacy skills has also been promoted through a number of recent Government initiatives such as 'Rwanda Reads' and 'All Children Reading'.

Project learning (activity/output to outcomes level)

- Teachers at TTCs as well as primary schools appreciated the teacher-librarian training and the project found that trained teachers put into practice many of the ideas from the ITOCA workshops, such as making books available by taking them out of boxes and arranging them on shelves, making time for children to read, and creating lesson plans using information resources.
- The project is dependent on NGO trainers and trainers trained by the NGO and the long-term effectiveness of this training approach is questionable. Follow-up with teacher-librarians in school to support the application of skills acquired is important.
- Training on the use of information resources cannot lead to the application of acquired skills in the many schools that do not possess such resources.

Project outcomes and reflection on monitoring and evaluation

The project undertook a descriptive evaluation with a baseline and end-line investigating, at the school level, the amount of student and teacher reading for pleasure, the information literacy of students and teachers. In addition, there is a descriptive report on the creation and success of creating a programme to train future teacher librarians. Quantitative measures were used for the amount of reading for pleasure (e.g. class time for reading, and reading during free time). Surveys and focus group discussions were used for the school-level data, along with some observations of the number and condition of books and the use of books in the classroom.

Few new school libraries were set up as a result of the initiative but separate government initiative has been providing more books to schools, especially textbooks. Other projects were focused on teaching teachers how to use textbooks in the classroom. This project sought to encourage teachers to allow children access to storybooks for pleasure reading, but the small number of storybooks available often made this difficult to measure and the evidence for the increasing use of books was inconclusive. However, many more teachers were allowing students time to read story books or read for pleasure in the classroom and there were a range of activities teachers employed to encourage reading (e.g. a reading competition). Information literacy was gauged by such things as teachers using research assignments and 65% of teachers did, though the increase from the baseline is unclear.

The use of information resources by teachers was problematic as there were still so few available, though some teachers were personally using the internet. But teachers were involving students in using conventional sources of information (e.g. dictionaries and atlases).

All four CoE staff enrolled in the USA-based library training completed the post-graduate certificate programme. A Rwandan library training programme for teachers has been designed and awaits university validation, and the four CoE staff will be able to teach this programme.

The report is transparent about the difficulties in collecting data (e.g. asking questions about reading at baseline, that teachers may not fully understand prior to training), and in the sampling (which was not representative or random). Much of the data presented does not directly address the outcomes specified and it is difficult to discern the overall impact of the project.

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Conditions for success

The most important conditions for success are at the school level, related to the enabling factors that ensure the training provided to be applied. This refers to the availability and supply of supplementary materials and other information resources to be used in the classroom. Skills development without the materials that enable the application of the skills is problematic. The fact that the availability of libraries and reading materials is an important GoR priority as part of the implementation of the new curriculum provides opportunities in this regard. A related factor is the need for teacher and head teacher support that is continuous and based at the school, which will allow new practices to be applied in the classroom.

Other conditions for success are related to the desired formalisation of the teacher-librarian position within the system by REB and the final approval of the B.Ed. Librarianship programme at the College of Education (CoE)

Scale up and sustainability considerations

ITOCA presented clear short-term, medium-term and long-term plans for scale-up and sustainability.

In the short-term, it would like to continue offering workshops at the TTCs, i.e. offering the workshop at the nine TTCs that were not part of the pilot, and then repeat them at the original seven. The training is meant to complement training from REB in relation to curriculum implementation and thought has been given to seeking coordination with in-service teacher training activities of other NGOs. Training will only reach 16 teachers per year and another 16 Tutors at the TTCs. As mentioned above, there is an issue in relation to providing training without any associated in-school support.

In the medium-term, ITOCA considers developing an in-service teacher training, to train more teachers in the skills of teacher-librarianship at the Certificate level. Having a staff member who knows how to support the use of information resources and reading for pleasure in schools is expected to promote these activities, especially in a context where an increasing number of resources are supplied to schools by the government. These trainings can be delivered by the new in-service training centre at the CoE and the Principal supports this idea, though the in-service teacher training role for the CoE is not yet developed. However, at the moment, this seems just an idea from ITOCA to improve on the current situation until the first students complete the B.ED programme (the long-term option) in 2020. Concrete planning does not seem to have taken place yet. Questions remain about the appetite of the CoE to pursue this medium term option. The anticipated reach will be 20 teachers per year.

In the long term, ITOCA focuses on making the Bachelor of Education in Library and Information Science (B.Ed. LIS) sustainable. The B.Ed. LIS is designed to train teachers who can be teacher-librarians in secondary schools, with the possibility in future of this type of training being offered at the TTCs for primary school teachers. It is anticipated, therefore, that it will become possible to have a teacher-librarian in every school in Rwanda. The anticipated reach is 100 teachers per year, with the first cohort leaving the programme in 2020. A programme proposal for B.Ed. LIS is in the process of validation by the Higher Education Council and a curriculum for the B.Ed. LIS

programme was established. The Minister of Education has given his support to this project, and a smooth implementation process is anticipated.

The introduction of the B.Ed. LIS programme logically follows from the training of 4 CoE staff at Syracuse University during the pilot and is a progression in to the specific area of pre-service teacher training at the CoE. This is quite different from the model piloted during IfE that focused on short-term in-service teacher training of teachers in primary schools as well as TTC tutors. The pilot results are not relevant for this pre-service scale-up option, so the impact of the B.Ed. programme will need to be evaluated during implementation.

There are significant risk factors with the long-term option. A sufficiently large cadre of qualified lecturers is required at the CoE. Through the pilot programme four lecturers have been trained to teach the new developed courses. Additional people will need to be trained at the appropriate level, through a distance learning approach and for a relatively long duration. This requires strong commitment from the trainees as well as funding.

Even if the B.Ed. programme can work and be sustained, there still remains an issue of sustaining other aspects of the model that will have to work together in order to ensure real impact on learners in schools in Rwanda. These factors include: (i) establishment of school libraries, (ii) the establishment of teacher-librarian positions in schools (REB decision), (iii) continuous professional support to teacher-librarians in the future and (iv) ensuring the use of information resources through the new curriculum.

Cost Considerations

For the short term scenario, ITOCA proposes to expand its pilot intervention and conduct workshops at all TTCs. Detailed costing has been provided amounting to GBP 7.10 per child, which is rather expensive for a mere continuation of the pilot experience. Costs can be reduced somewhat if the trainings are combined with other trainings conducted by other Grant Recipients, but no further details are provided for this alternative scenario

For the medium term, the project proposes to offer a year-long certificate programme with training to be jointly provided by ITOCA and the (still to be established) national in-service teacher training centre of the CoE. With 30 teacher participants in the first year this will be achieved at the cost GBP 1.73 per child.

The long-term plan focuses on establishing the B.Ed. LIS and making it sustainable. ITOCA proposed 3 detailed options for this scenario that differ in terms of the institutions that deliver the programme and modes of course delivery for future lecturers. Across these options, costs per child vary between GBP 0.62 and GBP 1.78. The assumption is that the B.Ed. LIS programme itself will be paid from CoE resources.

Immediate Next Steps

- CoE to establish the B.Ed. LIS programme, register students and start delivery
- ITOCA and the CoE to identify funding for additional CoE staff to be enrolled in a Master's Degree programme at a foreign university, in order to become future lecturers.
- ITOCA and CoE to jointly explore the opportunities for a Certificate programme (medium term plan) and CoE to decide whether this is an initiative worth developing, with funding coming from CoE. The actual success of this scenario will depend strongly on the future role of CoE in in-service teacher training.
- If external funding is available, ITOCA could undertake training all remaining TTCs (the short-term plan), but noting that an additional school-based continuous support component will need to be included in the package. There are doubts about the value for money of this option
- ITOCA to continue the advocacy work with REB and the CoE on (i) the importance of establishment of school libraries, (ii) the establishment of teacher-librarian positions in schools, (iii) continuous professional support to teacher-librarians in the future and (iv) making sure that use of information resources is encouraged through the implementation of the new curriculum.

Overview of the innovation

The main aim of this project was to provide support for girls in lower secondary school to stay in school and continue to upper secondary school. A multi-pronged approach was developed to address the multiple challenges faced by girls that impact on their attendance, retention and achievement in secondary school. This approach incorporated (1) school-based mentoring, (2) the establishment of girls' clubs, (3) saving and loan activities with associated training in financial management, and (4) a community score card allowing girls to participate in decision making. The project was implemented in 30 schools in three districts of Southern Province and a total of 239 teachers and 6,178 girls were involved in KGAS activities.

1,617 individual girls were supported with one-on-one sessions by mentors during the project's life (which represented 107.8% of the project target). 3,433 girls participated in saving and loans activities, exceeding the initial the target of 2,500 girls. The pilot achieved cumulative savings between January 2014 and March 2015 of 10,859,445 RFW (GBP 10,816) with an average saving of 3,165 RFW (GBP 3.1) per girl. In addition, those cumulative savings generated 1,323,615 RFW (GBP 1,318) of retained earnings (returns on savings) which represented 12.1% of savings. 231 girls' clubs in the 30 pilot schools evaluated school services using the School Score Card and voiced their needs and rights. Girls selected the domains of scoring, developed indicators, met with schools authorities to evaluate the quality, accessibility and availability of services and developed action plans to address the issues raised.

The total budget for this intervention was GBP 736,567.

Grant Recipient:
The project was implemented through a consortium of NGOs, led by CARE International with three local NGOS - AEE Rwanda, ARCT-Ruhuka and YWCA.

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What makes it innovative?
The project represents a new way of working in inclusive education by bringing together the distinct activities of saving and loans, score cards, girls' clubs and mentoring as a holistic approach for addressing girls' diverse challenges in attending and achieving well in secondary school.

Relevance to education priorities:
Main Theme: Inclusive education
Sub-theme: Skills development
The project addresses many of the priorities highlighted in the girls' education policy and the first priority of the ESSP for improving completion and transition rates in basic education.

Project learning (activity/output to outcomes level)
- Mentorship, dealing with psycho-social issues of the girls, is a sensitive issue and not without risks. The awareness of the government on how to deal with a mentorship programme for girls and how to put adequate risks management mechanisms in place will be important
- Those responsible for Girls Education in MINEDUC are very enthusiastic about the KGAS project and its potential to have larger impact when taken to scale.

Project outcomes and reflection on monitoring and evaluation
The quasi-experimental design involved control and treatment schools investigated at baseline and end-line. However, the choice of schools and high attrition rates complicated the analysis

method. The prime indicator of outcome was the drop-out rate of girls, and also measures of their self-confidence and economic empowerment, and school environment in relation to girls' learning and well-being. Qualitative and quantitative measures were used with school data on drop out and quantitative surveys for other measures, supported by semi-structured interviews.

While KGAS did not show a significant impact on drop-out (other factors, such as policy change, impacted the results for dropout rates). The evaluation suggests significant changes in girls' attitudes towards financial management. The girls who participated in KGAS had an 18% higher probability of spending on education and a 34% higher probability of saving than those who had not participated in the programme (based on three different regression models). This is supported by insightful interview data which suggests that the clubs helped girls by increasing their confidence and developing peer relationships, with some finding the mentoring process one where they could share personal problems.

As indicated above there were problems with the study in terms of samples that necessitated a variety of models of analysis to be examined to determine impact and consequently strong conclusions were difficult to make. The study was nevertheless conducted very professionally and suitably cautious conclusions drawn. Although the transparency was very high and a serious attempt was made to examine threats to validity and reliability, including the use of existing instruments with published details, there were still some unexamined validity issues with the survey measures. The modest conclusions are justified both from the design and instruments issues noted here.

Conditions for success

The key conditions for success particularly focus on the mentoring programme which relied on appropriate resources and time being available. The mentors were unpaid and there was a perceived large commitment from the mentors to provide support for girls outside of normal school working hours, often with additional personal expenses (for example, travel).

An important aspect of the programme is that it provides a relatively intense support package at school level. This raises questions about long-term ownership and capacity among government stakeholders at the decentralised levels. The proposed scale-up model tries to deal with this by 'simplifying' the package, which is well justified. The importance of building ownership and capacity at these decentralised levels is an important condition for future successful scale up and sustainability.

Another crucial condition for success is to make the girls' activities an integral part of school life, and as much as possible part of the school programme. There is a risk for the sustainability of the programme at scale-up if activities are only provided outside of school hours.

Scale up and sustainability considerations

The CARE scale-up plan provides a strong analysis of its proposed scale-up model. The basics of the pilot model will remain, but each of the components, (i) school scorecard, (ii) mentorship and (iii) savings/financial literacy, will become significantly less intense. Serious effort has been put into identifying a 'minimum model' that is still expected to work. The document could have been slightly stronger in explaining why the holistic approach needs to be kept – it is not clear why taking out one of the three elements of the model couldn't lead to the same overall impact, even if it may feel 'intuitively' right to keep them all together.

In terms of the upscaling process, the steps (i) replication (ii) nation-wide scale up (iii) institutionalisation are very sensible. There is also a clear commitment to have full MINEDUC/REB leadership during scale up. How realistic it is to assume scale up will happen under MINEDUC leadership is questionable: the 'how' of nation-wide upscaling is not discussed in-depth, raising some questions about feasibility. More details are required about the CARE role during scale up, in terms of it coming alongside the GoR to build its capacity to manage the entire programme. It is not only about mentors being trained at the school level, but also about the system being able to manage the entire package, across various levels of government. The steps towards system readiness will need to be dealt with in greater detail, as well as the ways in which the various actors will be involved over time.

CARE secured scale-up funding to replicate the project in the remaining Districts in Southern Province, in effect the first of the three scale-up steps. This will help working further on the scale-up and sustainability issues identified in this document.

The long-term institutionalisation solution focuses on integration in the curriculum. This needs more analysis as just putting content in a curriculum, if possible, may not have the desired impact. It triggers a range of questions about the actual implementation of that curriculum, the roles of teachers and mentors, the required support structures, the need for capacity building, etc. Finally the scale-up plan suggests that MINEDUC/REB will employ and pay the proposed Master Trainers at District level, which will need further negotiations.

Cost Considerations

The economic analysis is clear and when the project will be scaled up and institutionalised at national scale it will represent enormous reduction in terms of costs per girl as expressed in the table below. Although a strong cost analysis was presented by CARE, this does raise the question whether, if costs go down by such a large amount, there are any risks of 'diluted impact' due to a lighter model, or whether it is right to assume similar levels of impact. This justifies the need for a more thorough analysis of unit costs in relation to anticipated outcomes of the new model.

Unit	Current unit cost in £	Projected unit cost at Scale in £
Training per mentor including costs of: on-job coaching; training of trainers and working tools; register for record keeping	544.89	33.40
Training per girls' leaders	240.33	0
Materials/kit per club (cost per student)	26.00	26.00
Oversight per school per year	1422.40	236.00
Monitoring and evaluation per school per year	1030.36	11.10

Moreover, it is good that there is a focus on unit costs rather than on line item budgets. However, it would still be useful to get a better idea about the overall scale by presenting total amounts required for each phase of the next 5 years. A related issue is the need to quantify the implications for the GoR in terms of the budget allocations it will need to make, as well as the external funding needed. A strong element of the costs section is the 'counterfactual', i.e. the costs of not upscaling the intervention.

Immediate Next Steps

- CARE to discuss with MINEDUC about the proposed package and the ownership and willingness of the Ministry to scale this innovation up within GoR frameworks
- Provide enhanced analysis and clarity about which costs should be borne by which stakeholder. If the Ministry needs to make funding available, the implications of this will have to be very clear. If external funding is required, a strategy for attracting donor funds will be needed.
- Clarify CARE's future role and develop a clear strategy with MINEDUC as to how the GoR can lead with CARE providing support and capacity building for the Ministry at central and decentralised levels. MINEDUC can thus be prepared to take over the management of the entire package. The good news is that CARE has secured alternative scale-up funding to replicate the innovation project in the remaining Districts in Southern Province and this will help develop a joint approach with MINEDUC.
- This project is very closely linked with DFID strategic priorities and DFID may consider ways to support the sustainability of this intervention.

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Overview of the Innovation

The project 'eTeacher Training at Teacher Training Colleges' aimed to increase the integration of Information and Communication Technology (ICT) into the pedagogical practice of teacher trainers at Teacher Training Colleges (TTCs) and teachers at a selected secondary school. In the longer term, it was envisaged that this would lead to (i) higher capacity for e-teacher training in Rwanda, (ii) increased ICT skills among TTC tutors and secondary school teachers, (iii) change in teaching practices in TTC and secondary classrooms and (iv) more student-active learning in secondary schools.

The main activities were the implementation of an eTeacher training course. The e-teacher training course used a blended approach combining individual learning through an internet-based programme using a Moodle platform (Moodle is a free and open-source learning platform using the Internet), with additional support and peer learning from 11 e-tutors (teacher trainers trained for this role by the project). The peer learning element was further strengthened through the development of an online community of practice using the same Moodle platform as well as Facebook. The focus of the course was strongly on classroom application, i.e. the actual use of new teaching practices and different technologies in the classroom and on the reflection on this classroom application.

The innovation targeted in-service teacher training through the professional development of TTC tutors in five TTCs in Rwanda. Consideration was also given to the potential for eTeacher training in in-service training through a pilot implementation in one secondary school. 84 teacher trainers (TTC Tutors) and 24 secondary school teachers participated in the programme.

Total project budget was GBP 154,111.

Grant Recipient:

The project was managed by MKFC Economical Association, a Swedish financial association linked to Stockholm College, in collaboration with Education Finder Rwanda.

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What makes it innovative?

This project was innovative in two distinct ways. The first was through the introduction of an online-based teacher training model which was new to the Rwandan context but which had been successfully implemented in Eritrea, Somalia, Ghana, Kenya, Palestine and Pakistan.

Another element of the innovation was the use of the blended approach for teacher training, combining autonomous learning through cost-effective technologies, with peer support and learning, both face-to-face and web-based.

Relevance to education priorities:

Main theme: effective teaching and learning

Sub-themes: technology

The project was very relevant to the ESSP priorities for 'developing a skilled and motivated teaching, training and lecturing workforce' and 'strengthening education in science and technology'. This innovation also addressed the ESSP objective of 'integrating ICT within all subject areas'.

Project Learning (activity/output to outcomes level)

- The course on the Moodle platform is clear and well-structured, especially the steps to follow for each assignment:

Step 1: Introduction including pre-course survey
Step 2: Reading - article about the topic, advanced reading,
Step 3: Discussion after reading (through discussion forum),
Step 4: Implementation of theory in the classroom

Step 5: Writing: write a brief report of the implementation, i.e. the assignment.

- Participants engaged well with the content in part because of the strong focus of trainees on 'doing assignments'. However, there may be a need for building in higher levels of (peer) reflection.
- The role of the e-tutors is crucial and is seen as an important way to support and facilitate the individual learning taking place through the learning platform.
- TTC teacher trainers and teachers in the secondary school went through the same programme but there may be a need for differentiated approaches for developing the skills of these different beneficiary groups
- Responses from teacher trainers confirm that the pilot is very much framed around ICT skills and the use of ICT in the classroom. There is potential to put more emphasis on the change in classroom methodology to arrive at increased levels of student engagement.
- The average drop-out rate of TTC tutors seems high, but needs to be seen in perspective: one individual TTC (TTC Save) caused the majority of drop out cases, which is linked to specific issues at that particular TTC. The reasons for drop out are mainly related to technical difficulties with internet connectivity, which made online sharing among teacher trainers difficult.
- A significant issue related to project sustainability is the question of internet connectivity and the stability of the technical infrastructure necessary to implement e-learning in Rwanda.

Project outcomes and reflection on monitoring and evaluation

The innovation was evaluated based on five treatment TTCs and one control TTC, and one treatment secondary school (however, the control TTC results are not discussed). The methods were both qualitative and quantitative and included systematic classroom observation of classroom practice, interviews and focus group discussions with TTC and school teachers and future e-tutors, and analysis of the eTeacher training course results, questionnaires and web statistics.

The final evaluation showed that 66% of teacher trainers and 96% of teachers completed the e-teacher training course. The use of technology in the classroom increased significantly from the baseline in   all the TTCs and the secondary school. ICT was used in 13 of 16 lessons

observed (compared with 2 in 20 in the baseline) and 70% of teacher trainers reported that they used ICT at least twice a week (as compared with 48% in the baseline). There was also some improvement in the TTC use of student-active teaching.

The pedagogical adoption of ICT by teachers is a complex process influenced by many factors of both contextual and individual nature: contextual factors such as infrastructure and ease of access to technology, perceived technical and pedagogical support and organisational factors; the teachers' approaches to teaching and learning and attitudes to teaching with technology.

The study was well conducted and the combination of qualitative and quantitative data is put to good use to substantiate the results and hence the conclusions. The validity and reliability of the instruments, particularly for the classroom observation, were not established.

Conditions for success

The project's implementation was largely dependent upon the availability of the technology. A positive aspect of the programme was that it used technology that was already available: all TTCs have one or more ICT rooms. However, there were issues during the project with the availability of internet connectivity, notably in rural areas, which had implications for teachers' access to resources and regular engagement with the modules.

The project has shown that there is potential for eTeacher training to develop teacher ICT and teaching skills in Rwanda but highlights that keeping key stakeholders (in this case teacher trainers and teachers) engaged and implementing pedagogical change takes time and resources.

The innovation has provided an initial infrastructure for further development of e-learning in line with the ESSP strategic priorities in building ICT competence in schools. Its sustainability relies on the maintenance of the technological platform, the sustained competence of etutors, internet access at district level, and organisational ownership within REB. The foundations for an institutionalised future were laid during the project with REB being trained to manage - and, in fact, being handed over the management of - the Moodle learning environment.

Scale up & sustainability considerations

The proposed scale-up package is the same as the adjusted package that was used in the final stages of the project. This will mean scale up to all TTCs and secondary schools in the country, leaving the management of the overall learning platform with the REB ICT department and having TTC tutors and secondary school teachers follow the online course and participating in the community of practice. The training course will consist of four main steps: (i) preparation and initial one-day workshop, (ii) train the facilitators (i.e. the e-tutors), (iii) train the teacher trainers/teachers and (iv) course evaluation, certification.

Very limited external support from MKFC would be required during scale up, which would be mainly limited to technical advice with regard to Moodle as well as coaching of the coordinator, etutors and REB. There is potential for this programme to be scaled up and institutionalised given the strong commitment and support by REB, and the relatively modest additional investments in the future, which could come from the REB budget (emphasising the need for REB to include this in their annual budget). The chances for successful replication in all TTCs and secondary schools are enhanced by REB ICT Department's selection of this project as the best IfE project working in the area of ICT. This shows the interest of the government in sustaining the programme and embedding it in the existing structures.

MKFC has already made substantial efforts to create the conditions for a successful transfer of project activities to REB, specifically the Department for ICT in Education and ODeL. The project has liaised very closely with the assigned government counterpart and also built the capacity of (i) the future programme coordinator, (ii) the training manager, and (iii) the Moodle technical manager (all REB staff).

Although additional investments needed to manage the system in the long run are relatively low, this also needs to be seen in the context and scope of the innovation: this is a niche initiative that works in a specific technical area and does not provide an alternative model for system-wide teacher training, However, if seen separately from the specific domain of this innovation (i.e. ICT skills and use of ICT in the classroom), the blended approach used for teacher training could be used as an input to further reflections within REB about how teacher training could take place in the future, and how it could result in improved teaching practices.

The issue of scale up to secondary schools is taken into account in the above scale up considerations. If pursued, it would require significantly higher investments in terms of ICT, budgetary and human resource requirements due to the volume of schools involved. It would also be working with in-service teachers rather than in-service tutors at TTCs and so require significant adaptations to the model. One major risk factor in scaling up the project is the heavy dependency on a limited number of government staff whose capacities have been strengthened with highly specific skills. For this reason continued support from MKFC is also advised to ensure that necessary capacities are spread among a larger group of Government staff.

Cost considerations

Two costed scenarios have been presented by MKFC:
- Scenario 1: REB to fully take over the training and entire programme reaching out to 24 schools and 408 trainees (teachers/tutors), including salary payments to future eTutors and e-tutor coordinator, at an annual cost of GBP 12,500,
- Scenario 2: As above, but with MKFC to support strengthening 'institutional readiness' of REB and provide further technical assistance in relation to the management of the ICT platform, coaching the e-tutor coordinator and etutors, and maintaining strategic oversight. The cost also includes formative evaluation of the training program. Cost will be GBP 32,447 for the first year, reducing as MKFC support will be gradually withdrawn.

In order to guarantee continuity of the programme, the second option is preferred as it provides a better opportunity to achieve quality scale up.

The above does not include equipment/internet connectivity related costs at school and TTCs.

Immediate next steps
- REB to analyse its budget and assess the budgetary space to spread the intervention to all TTCs and optionally secondary schools in Rwanda. This analysis will need to take the opportunity costs into account and assess the implications for alternative use of the same resources
- REB to decide on whether to (i) replicate the programme in other TTCs only or (ii) to expand the programme to secondary schools as well
- REB to identify ways to ensure full internet access in all TTCs
- REB and MKFC to jointly assess opportunities for an ongoing MKFC role in a scale up programme
- Through the TPD Technical Working Group and the Pre-Service Teacher Training Task Force, reflect on wider systemic opportunities such as integrating open and distance learning in pre-service and teacher professional development, including the integration of (aspects of) the programme in teacher training curricula

Overview of the Innovation

STEM aimed to improve teachers' proficiency in English and their confidence and ability to teach through the medium of English. It was hoped that through developing their proficiency and confidence, teachers would be able to apply more learner-centred methodologies in the classroom. The project was implemented through a blended-learning package which combined self-managed learning through printed units, learner journals, and audio learning materials; and supported by School Based Mentors (SBMs) and school based personnel (SBPs). The audio content was delivered through pre-loaded micro-SD memory cards on mobile phones as well as the Life Player (a solar-powered MP3 player with recording function and in-built speakers).

The blended approach include the following:
- 20 units of guided self-study materials (including an introductory unit) based on classroom tasks and language tokens (specific pieces of classroom English)
- Accompanying listening, speaking and pronunciation activities loaded on to mobile phones for each participant
- Mentor-facilitated support with guided self-study materials (1-1 and group)
- Life Player listening, speaking and pronunciation materials (approx. 1 player for 5 teachers)
- Peer support/learning groups (initially facilitated by STEM mentors) based on content
- pre-loaded on a Lifeplayer for listening and recording and guided self-study materials
- Learner journals to encourage reflective practice in professional development
- 'Can do' statements linked to classroom tasks to encourage self-monitoring of progress and self-assessment of ability in using classroom English

P1-3 teachers of English and P4-6 teachers of all subjects in 10 schools in Nyamasheke were initially involved in the pilot, which was later extended to 36 schools in the district. The total number of teachers involved was 497, who reached 32,400 primary students. The budget for the STEM project was GBP 635,099.

Grant Recipient:
The programme was implemented by the British Council in collaboration with local partners: the International Education Exchange (IEE) and the Association of Teachers of English in Rwanda (ATER).

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What makes it innovative?

The STEM programme was innovative both in terms of being new to the Rwandan context, as well as being based upon new use of technology. A blended approach to teacher professional development, combining guided self-managed learning with mentoring and peer learning has not been used in Rwanda before. The guided self-managed learning was delivered through a mix of audio and print materials, with the audio being delivered through mobile phones and solar-powered MP3 players with recording and playback facility.

Relevance to education priorities:

Main theme: Effective teaching and learning;

Sub theme: Skills development.

This project was relevant to the 2010-15 ESSP where the sector-wide shift to English medium education was promoted as a cross-cutting priority. This was also highlighted in Rwanda's Economic Development and Poverty Reduction Strategy (EDPRS) where the School Based Mentor programme was explained as a way to "strengthen teacher proficiency in English and to improve

the quality of teaching and learning."

Project learning (activity/output to outcomes level)
- Teachers generally reported positive attitudes to the STEM guided self-study model, including learning materials and peer support groups.
- Audio resources were greatly appreciated and were shared throughout the schools on mobile phones. The audio materials were also shared with teachers from non-STEM schools in Nyamasheke district and beyond. M&E reports highlighted that the audio materials were considered essential to the package, introducing teachers to spoken classroom English.
- The mobile phone was by far the most popular means of studying STEM materials. Working with mobiles helped build teachers' confidence and enhanced their skills of listening, speaking and pronunciation. Dictionaries on the phones further helped with vocabulary enrichment, and access to the internet was considered as very useful for research on lesson content.
- The print materials, used in combination with the mobile phone, helped teachers to develop reading and writing skills. This is particular important as the most recent assessment of English language proficiency of teachers in Rwanda showed that reading is the weakest skill.
- Peer Support Groups and teacher support from SBMs and SBPs have helped teachers in exchanging and sharing experiences and supporting each other.
- Life Players were envisaged for use in peer support groups, but they were often replaced by mobile phones and speakers. Moreover, a number of the Life Players faced some technical problems (e.g. charging batteries).
- Learner journals are not a feature of Rwandan culture, and teachers did not fully understand their purpose and/or failed to see their usefulness.
- Self-study is something new in the Rwandan context and not easily understood. Project strategies to address this (such as encouraging guided self-study through peer support) will need to be repeated at scale-up.
- Heavy workloads and other school plans sometimes prevented teachers from engaging with STEM as intensively and extensively as they otherwise might have done. Engagement with Head Teachers to gain their support can help mitigate this.
- For the potential scale up phase it will be important to issue guidelines and procedures to handle the equipment (mobile phones) and on how to deal with loss, theft and damage.

Project outcomes and reflection on monitoring and evaluation
The study design tests different models of support to teachers (treatments) against a pair of control schools. The samples are too small to make it an experimental approach, but it does compare baseline and end-line results. The projects' outcomes were measured by a variety of methods with pre- and post-

tests of teachers' general English language competence and classroom English, observations of their classroom practice, and survey of understanding and attitudes to pedagogy and self-study. There were also Focus Group Discussions with teachers and a series of case studies of individual teachers.

The outcomes of the project were:
- Increased understanding and positive attitudes amongst teachers towards guided self-study within a blended learning approach to continuous professional development (cpd), with a preference shown for self-study combined with a face-to-face element.
- Significant improvements to teachers' classroom english and confidence to use english in the classroom. Teachers were observed to be better able to conduct lessons in english though with no significant improvements to their general competence in english.
- Teachers enabling pupils to be more actively involved in the learning process, but limited improvement in the english interactions among pupils and with their teachers.

In general a good study with convincing outcomes in relation to the classroom. There were some initial problems in the reliability of some of the data (particularly observational) which were addressed.

Conditions for success
This project was dependent upon teachers taking time to self-learn outside of the classroom as well as finding effective ways of learning from each other and joint reflection on their classroom practices. Engagement among teachers was very good because all teachers involved in the pilot recognised the clear need for improvement and how the initiative would facilitate their work, as well as the benefits to them and their learners in terms of better quality teaching and learning.

The pilot project initially made extensive use of the Life Player but during implementation this was found not to be essential. Mobile phones are required, but the use of mobile phones is not dependent on network connectivity (because of the preloading of the SD cards) and, importantly, it is not necessary to have the latest and more expensive 'smart phone' technology.

The project was also dependent upon both Head Teachers and SEOs supporting teachers. The project was flexible in its delivery of strategies to give these stakeholders small but discrete roles that engaged them without overburdening them.

An intervention of this intensity depends on significant investment and the long-term success of the project is dependent upon its cost effectiveness, which could compare favourably with relatively expensive face-to-face training.

Scale up and sustainability considerations
The most important elements to be sustained for future scale up are the audio materials on mobile phones; corresponding printed units; peer support groups; teacher support; and a light touch M&E model. Elements that have been considered less essential and hence, not recommended for scale up are the Life Players and learner journals.

The project presented a sound analysis on the essential elements to be retained and also made a strong case for continued technical assistance, capacity development and quality assurance for the large scale roll out. Moreover a continued and stronger role for national implementing partners is foreseen during this process of rolling out the intervention, which will be led by the Government (REB).

The project envisages a phased roll out, eventually leading to reaching all primary school teachers. The approach and methodologies that STEM applies in the area of 'using English as a medium of instruction' have the potential for much wider use, and may become a general model for Teacher Professional Development in Rwanda. Moreover, close collaboration with the College of Education (CoE) will be sought to ensure that materials will be embedded in pre-service teacher training as well.

Chances for successful institutionalisation are high as continuing to support teachers to use English as the medium of instruction and supporting their English proficiency remains high on REB's priority list and the STEM project is positively perceived by GoR. Interest in the project has

been shown in other Sub Saharan Africa countries (Nigeria, Mauritius and South Sudan); and STEM has recently won a Commonwealth Good Practice in Education award.

In case no further external support is provided, the materials (audio and print) can be made available and reproduced by the Government. Moreover, these materials could be made available in pre-service teacher training. The peer support groups could also be sustained within REB as a component of a wider in-service teacher training programme. Inspectors could use the classroom observation instrument. Key teachers (school based personnel) can be used in those areas where there are no school based mentors.

However, while useful materials, instruments and methodologies have been prepared and can be transferred to the Government, the Fund Manager supports the projects' view emphasizing that technical assistance and capacity building of teacher trainers and teachers will continue to be required to ensure highest impact of upscaling.

Cost considerations

Although unit costs per teacher were relatively high during the pilot project, the project has proposed an efficient and slimmed down package for scale up. The revised package will exclude the elements of the pilot that had least impact (learner journals and Life Players).

The economic analysis discussed unit costs in relation to materials, training, equipment and M&E. It showed that the pilot intervention has been quite expensive at GBP 5,292 per teacher, which was reduced to GBP 1,296 per teacher when school based personnel (i.e. key teachers) rather than school based mentors took on the role of supporting participating teachers. When scaling up the intervention to all estimated 37,404 primary teachers in the country, the cost per teacher would be reduced significantly to a range of GBP 23 – 73 per teacher depending on the package offered (e.g. providing only SD cards or providing an entire mobile phone set). This includes print, audio and M&E, but excludes training and the quality assurance role previously provided by the British Council.

For scale up it is assumed that the national consortium partners IEE and ATER will deliver the training to trainers consisting of existing personnel of the Government (e.g. mentors).
The Fund Manager has referred to the experience from English in Action (a DFID supported programme implemented by Mott MacDonald in Bangladesh) to advise that providing just SD cards, rather than mobile phones, to teachers will significantly reduce costs.

Immediate Next Steps
- Continue to develop and strengthen the scale up plan for STEM, including revising the package, and aligning this to the implementation of the new competency based curriculum, and seek REB (in particular the REB TDM Department) feedback on the plan.
- Disseminate findings from the guided self-study pilot innovation more widely across the education sector in Rwanda.
- Using the Technical Working Group on Teacher Professional Development, provide advocacy for the STEM model, including how the model could serve as an example of ongoing teacher professional development beyond English as a medium of instruction.
- Seek REB approval for the system-wide use of self-study training materials developed by STEM and determine how they can be adapted for self-study purposes within a scaled up modality.
- Work with CoE to explore ways in which the STEM self-study resources and learning approach can be embedded in pre-service training programmes.
- Develop a strategic plan to secure private sector investment for the project (in particular Information Technology and Telecommunications providers).
- Assess the impact of the lighter package in the long run.

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Overview of the innovation

This project piloted a 'green school initiative' at 100 primary and secondary schools across four districts of Rwanda. All schools established school gardens, which were used for beautification of the school grounds, income generation, as well as a teaching and learning resource for subject teaching. Eco-school committees were formed at these schools and an environmental curriculum was introduced.

Based on previous experience in other countries, the selected schools could choose 4 environmental topics from the following 10 themes: biodiversity, climate change, energy, global perspective, healthy living, litter, school grounds, transport, waste, and water. These 4 themes would form the basis for improving the school's environmental practices and learning activities.

There was also a strong advocacy element to this project at the national level with the long term aim of integrating environmental education into school curricula.

A total of 243 teachers were trained and 19,093 primary students and 9,941 secondary students benefitted from this project.

The project total budget was GBP 151,891.

Grant Recipient:
The project was implemented by the ARAMA foundation with Foundation Saint Dominique Savio.

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What makes it innovative?

This initiative has been widely implemented in Europe and previously piloted in Kenya and Uganda but it is new to the Rwandan context and represents a new approach to Education for Sustainable Development in schools.

The use of school gardens to teach subjects such as mathematics, science and social studies was an innovative way to change the way teaching and learning take place, outside of the classroom.

Relevance to education priorities:

Main Theme: Skills development

Sub-theme: Effective teaching and learning
The project was closely aligned with the Education for Sustainable Development priorities both within Rwanda and globally.

Project learning (activity/output to outcomes level)
- The project gained greater traction and success in those Districts where there was very strong involvement of DEOs and Mayors in the programme. This also resulted in pilot project objectives being included in performance contracts of some decentralised level government staff
- The project necessarily had a strong focus on changing attitudes, behaviours and practices to generate the necessary support for the innovation to work.

Project outcomes and reflection on monitoring and evaluation
The evaluation was an observational design with baseline and end-line studies. The effectiveness of the impact of the environmental curriculum on students was measured by a survey of their knowledge, attitude and practice among 2509 students at 20 schools (16 primary and 4 secondary), sampled from the 100 involved in the project. In addition an environmental

assessment questionnaire was given to head teachers in all 100 schools, along with questions on the environmental curriculum (in schools).

At the school level, 84% introduced at least 4 environmental or climate change themes in the curriculum up from 49% at baseline, and all had a school garden (96% had at baseline), though the basis of these results is unclear. Slight improvement was found on mean scores for student knowledge (mainly at primary grades); some improvement in student attitude mean scores (but not at secondary grades) and improvements in mean student practice scores (that reduce in size across the grades).

This descriptive evaluation with baseline and end-line studies lacks transparency and the surveys used have no demonstrable validity and reliability (the student survey is based on an existing international instrument but not validated for Rwanda). The results quoted above are not supported by sufficient analysis to attribute statistical significance to the improvements given, or indeed to quote the actual student mean score differences between baseline and end-line.

Conditions for success

The main challenge that this project faced was that the environmental education programme was seen as extra-curricular. In some schools, this resulted in limited time available for learners to engage in the environmental activities and lack of support from the school management as it was not always seen as an educational priority. There was also a mixed response to the programme by local education officers, with some lack of clarity on their expected role with regard to the eco-school committees. Broader policy support to mainstream environmental learning in the curriculum and institutionalise the necessary support functions is a condition for long-term success of the initiative.

Scale up and sustainability considerations

The proposed model for replicating the innovation in another 100 schools in the same geographical areas is realistic   and feasible, provided that external funding is available. Capitalising on a

cadre of previously trained people and the existing ownership by GoR decentralised staff is a cost effective way of moving to the next 100 schools. It will be important to attract project funding for this and ARAMA will need to remain involved. It is good that potential funding sources are identified in ARAMA's scale-up plan, but the chances of success to attract funding from these agencies is not clear from the document.

The main problem is that the scale-up model is not clear. If interpreted correctly, by distilling information from different parts of the document, the scale up model is the same as the pilot model plus (i) the development of a policy framework, (ii) public awareness campaigns and (iii) national environment-infused curricula. If the above assumptions are correct, it means the package is becoming heavier instead of lighter. A project that is already intense in terms of the level of support needed, will be difficult to scale-up if more resources are required as the package is further extended while at the same time reaching more schools. The document is simply not clear enough to be able to establish what the actual model consists of.

There is also a lack of clarity relating to the longer term scale-up perspective (i.e. beyond the initial 100 schools) of establishing model schools and training Master Trainers to establish and support these model schools. This is an entirely new model, not tested in the pilot, which raises two major questions: (i) if this is the desired model, why still go for scaling up to an additional 100 schools according to the old model - if the model as such will cease to exist by the end of the initial scale up phase?, and (ii) is there any proof that the model school concept will work? There is a lack of analysis in terms of the anticipated impact of the new model. There is also no information about the mechanisms through which the spread to surrounding schools will work and what the resource implications of ensuring this spread are.

The focus on ownership of and partnership by GoR institutions is good and appropriate. However, current discussions have not resolved the general question around the responsibilities given to a wide range of GoR organisations and the extent to which they want to become part of scale up and embedding.

A critical entry point to create wider systemic impact will be the curriculum implementation.

It is very good to see that discussions are happening between ARAMA and REB Curricula and Pedagogical Materials Development Department (CPMD) and this could lead to the development of curriculum guides and related teacher training. However, the discussion of the curriculum remains vague. There is no reference to the curriculum review and implementation process. Is environmental education actually covered by the new curriculum and how do ARAMA's activities fit in? Have they been part of the pilot, or does it concern a plan for scale up? If the latter, it may be too late, as the curriculum review has already finished. It is also not clear whether the College of Education (CoE) and REB/CPMD are happy to play the roles assigned to them in the scale-up document. The curriculum issues are very complicated as this is about curriculum implementation work across subjects rather than for one subject only. A more comprehensive and clear analysis of the curriculum implementation work is required.

The partnership with the CoE seems sensible in order to ensure embedding environmental topics within formal teacher training. It is unclear what the status of the discussions with the CoE is, and whether these ideas are indeed supported by the CoE. Similarly, the partnership with the Rwandan Environment Management Agency (REMA) is a very good step and is very interesting as it creates partnerships between GoR agencies across sectors. The role of REMA could even go beyond the narrow focus on planned awareness raising activities and ARAMA should consider broadening this partnership.

Cost Considerations
The economic analysis provides unit costs for Training of Trainers (ToT) and various elements of support and Technical Assistance. Although the costs per year do seem reasonable (GBP 14 per trainer, GBP 5 per school, GBP 1,127 per District), it is not clear what this will buy exactly. It also seems the entire package will be more expensive than the combined calculated unit costs as important cost elements are missing. For example: while the document mentions that the curriculum work is the most expensive cost element, no cost analysis for this component is included.

Apart from the unit costs, there is no real discussion about the Value for Money of the scale-up plans. Even if known how much it costs, it is impossible to assess how this is cost-effective in relation to the anticipated outcomes and how this is better than alternative use of funds. Related to this, there is no discussion how these expenses would be part of the GoR budget and how the Ministry can spend its money effectively on an eco- school initiative. The financial sustainability of the innovation in a GoR context remains questionable.

If this innovation will be scaled up, there clearly is a need for ARAMA involvement in the medium term and ARAMA must indicate if it is able to secure the required funding for this.

Immediate Next Steps
- ARAMA to further work on its Scale up and Sustainability Plan to make it a real basis for action. This should include an improved economic analysis.
- ARAMA to discuss with relevant Ministry departments to ensure scale up of the intervention.
- ARAMA to discuss with REB CMD and the Technical Working Group on Curriculum, Materials and Assessment to plan for the way forward in terms of curriculum implementation and assess the possibilities for ARAMA to play a role in teacher training for the new curriculum.
- ARAMA and the College of Education to discuss sustainable ways to train teachers on environmental topics in line with the new curriculum.
- ARAMA to further strengthen and broaden its partnership with REMA.
- ARAMA to identify scale-up funding from external sources.
- DFID to assess how supporting scale up of this project could fit within its wider objectives around climate change and the environment.

UKaid
from the British people

INNOVATION FOR EDUCATION

Improving the Quality of Primary and Lower Secondary Education in Rwanda through Community Engagement in the Management of School Resources

25

Overview of the innovation

This project sought to improve community engagement in the management of school resources with the long term aim of improving the quality of primary and lower secondary education. Parent Teacher Committees (PTCs) were trained in planning and the management of school resources, with a specific focus on (i) roles and responsibilities of PTCs, (ii) strategic planning and (iii) annual planning. The project supported the establishment of school audit committees in schools where these did not exist and built the capacity of its members to monitor resources and spending of the school.

Another support mechanism of this project focused on parental engagement in the life of the school and the education of their children. A community engagement initiative supported parents to make school and community level government officials more accountable for education delivery. The concept of 'accountability week' was introduced, when parents visited the classroom, observed lessons and discussed with teachers; and when a wide range of school stakeholders engaged in creative awareness raising activities (e.g. through drama and role play).

The project trained 280 Parent Teacher Association members and 70 head teachers. The total project budget was GBP 490,492.

Grant Recipient:
The project was implemented by Transparency International Rwanda (TI-Rw).

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What makes it innovative?

The project was innovative in its aim to use a Quantitative Service Delivery Survey (QSDS) instrument to generate an evidence base for school financial management, and to introduce performance based incentives for improved community participation and quality in the management of school.

Relevance to education priorities:

Main Theme: Accountability and Empowerment;
The project was closely aligned to the ESSP and its focus on developing more effective delivery of education services through better management of school financial resources.

Project Learning (activity/output to outcomes level)

(These points relate almost entirely to the Grant Recipients' perception of the success of the project as no evaluation data are presented)

- The community engagement component and the 'accountability week' encouraged positive behaviour from parents but it seemed to be very much about 'educating parents' and raising awareness about 'student behaviour'. There may be a need for a stronger emphasis on the potential need for teachers and schools to do things differently in terms of catering better to the needs of students and their parents (rather than only expecting change from parents and students).
- The training component is a useful intervention to strengthen community management of the school, and created a good forum to enhance communications and joint planning between

parents, schools and local government officials. At the same time, it seemed more about filling a gap in current service provision than being innovative in terms of its methodology.

- Over time the pilot project seems to have broadened its scope from a strict focus on management of school resources to various aspects of wider community engagement which was a positive step in the direction of school based management seen in other countries.
- TI-Rw demonstrated the value of good PR and media engagement to positively present the project to the public.

Project outcomes and reflection on monitoring and evaluation

The report submitted was not appropriate as an outcome report, and only provided an overall ranking of schools on scores from a questionnaire at the end-line. The questionnaire itself has no demonstrable validity or reliability and no data were provided to arrive at the scores and hence the ranking. The outcomes set out for the project at inception were not reported upon so no conclusions can be drawn about the impact of it, though claims are made about a great improvement in school management and parental involvement.

Conditions for success

The future of this intervention will need to be in the systemic adoption of the training and support mechanisms, which will need commitment, capacity and resources from REB as well as buy-in and support by DEOs, SEOs and head teachers. As the training provided by TI-Rw strongly supports the implementation of existing laws, opportunities for scale up through the government system are certainly there, provided that budget is available. With regard to this, a more cost-effective support system will need to be identified.

Scale up and sustainability considerations

The package that was tested in the pilot includes straightforward training activities plus the 'accountability week', which was added later during implementation with agreement from the Fund Manager. Although costs per school seem relatively high, the model can be replicated in other schools (TI-Rw identified 30 new schools for this replication to take place), especially by initially using actors who have already gone through the pilot experience.

However, there are some questions as to which 'model' is being scaled. The accountability week, which was only added to the pilot at a relatively late stage, seems to have become the core of the model, without much clarity about the actual impact of this component, although it is suggested that it has increased parental involvement in school management and the education of their children. At the same time the school governance training does not seem to have disappeared, but remains without any further analysis in the scale-up document. It is thus unclear what the exact scale up package will entail. Also, the process of upscaling is not sufficiently discussed: there are two options provided, with Option 1 suggesting to move to 30 additional schools, and Option 2 proposing staying in the pilot schools and encouraging a more natural spread to surrounding schools through the existing schools (but again unclear about how this should happen)

Finally, the discussion of sustainability is the weakest part of the scale-up document. The TI-Rw document is written as a continuation of a TI-Rw project. TI-Rw staff will take MINEDUC/REB staff with them on the work they will do, but there is no vision for a change in roles and a handing over process, or dealing with the accompanying capacity building and institutional strengthening issues. There is no focus on the process to cover all 30 Districts, nor on an ongoing support model after all Districts have been covered. It just seems a Project Phase 2 to be implemented in a limited number of additional schools.

Cost Considerations

The economic analysis is clear in the sense that it provides a budget for the next phase. The problem is that it is just a next phase of the project, without any idea of the potential costs to MINEDUC if/when MINEDUC takes over (in fact there is no attention to handing over to MINEDUC in the document). There is no clarity on costs in relation to outcomes or costs of alternative scenarios.

Another issue is that the magnitude of the programme funding required is still considerable even unit costs are lower when compared to the pilot. The proposed budget of GBP 383,034 will reach only 30 additional schools over 2 years. If costs were calculated to reach all 30 districts on the basis of this, it would seem impossible for the Ministry to absorb.

Immediate Next Steps

- TI-Rw and REB to discuss ways in which the training for PTC and audit committees can be scaled up and sustained as part of REB's work on effective school management. The school leadership and management unit in REB should take the lead.
- TI-Rw can provide technical support to REB, but should gradually move away from its current direct implementation role.
- The accountability week is a good and engaging concept, which can be adopted by REB, and which can relatively easily be organised by the schools themselves. TI-Rw may want to publish a guidance document that can help schools to organise their own 'Accountability Week'.

INNOVATION FOR EDUCATION | Ndi Hano
(Here I am)!

Overview of the innovation

This project used daily SMS reporting at primary schools to generate and store data on teacher and learner attendance. It was anticipated that this data could be widely shared with MINEDUC/ REB, District Education Officers (DEOs) and Sector Education Officers (SEOs), head teachers, teachers, parents and other education stakeholders to enhance their collective accountability for attendance in the classroom and ultimately to lead to more regular attendance at school by both teachers and learners. Teachers at 28 primary schools of Nyarugenge district in Kigali were trained to use the reporting system and then asked to send daily reports.

The project finished early because of very low levels of reporting and higher than expected resource requirements for its delivery.

Ndi Hano worked with 56 head teachers, 642 teachers and 41,836 students.

Total project budget was GBP 225,103.

Grant Recipient:
Ndi Hano! was implemented by Education for Change (EfC), a company from the UK.

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What makes it innovative?

While a similar system had been used in Sierra Leone, South Sudan and Uganda, it was new to the Rwandan context. The project also aimed to use SMS technology in a way that utilised any available mobile phone or network.

Relevance to education priorities:

Main Theme: Accountability and empowerment;
Sub-theme: Effective teaching and learning, inclusive education
The project was in line with the 2010-15 ESSP and the focus on completion rates while reducing drop-out and repetition in basic education. The project had a strong focus on decentralisation as part of educational reform.

Project learning (activity/output to outcomes level)

- The project succeeded in setting up an infrastructure that worked well: an SMS system was operational using individual codes (all teachers and all pupils of the pilot schools were included in the system), data were sent by phone to a central server where it was stored, with real time attendance data accessible through the web.
- Initial reporting of data happened, but it became clear early on in the pilot that schools were severely under-reporting and that more funding was required to monitor the actual use of the system and to encourage higher reporting levels. This highlighted the importance of incentives to report and the importance of linking the SMS reporting system to existing teacher and student databases of a kind that are currently non-existent in Rwanda.
- Interestingly, in a number of other Districts individual DEOs have taken the initiative to use SMS as a way to report on teacher attendance. Although only relevant for the local level, and without a central database in place, this appears to highlight the potential demand for a monitoring system using SMS.

Project outcomes and reflection on monitoring and evaluation

The SMS attendance reporting was monitored through the project. In the first phase of February-March 2014, the system received messages from only one third (33%) of teachers at the schools. More than half of these (57%) only sent ten messages or fewer over the two month period. This suggests that there was little systematic reporting of attendance across all schools. Although teachers reported confidence after training in reporting, they struggled to use some elements of the system and found it time consuming. There was little motivation for teachers or head teachers to report, despite seeing the potential for the use of attendance data.

This project is a good example of a project that may not have been successful in terms of project outcomes, but that has come up with important learning that can be used to inform future interventions both in Rwanda and beyond (see 'Project learning' above, and 'Conditions for success' below).

Conditions for success

Functioning technology is a condition for success. The basic technology indeed worked in the pilot and no substantial additional technology challenges are anticipated during possible scale up as the system can be revived relatively easily.

The project has not been able to meet the key conditions for success that are related to the 'soft side' of the intervention and this contributed to the poor project outcomes. EfC identified the need for stronger contextualisation of the operational processes involved in the introduction of new technological systems.

It was noted that teachers encountered technological errors when reporting and found the process time consuming, both of which acted as a disincentive to regular SMS reporting. There was also no clear benefit for teachers which would have incentivised them to persevere. These offer clear lessons for the importance of the main actors buying into and seeing the direct benefit of an innovation if they are to perform their role appropriately.

As the drivers for reporting are not there at the moment, only substantial investments in monitoring and/or incentivisation would make it work under the current conditions. Such investments would not provide good value for money. At the same time, the value for money of this innovation would substantially improve if certain systemic pre-conditions are met, e.g. the establishment of comprehensive GOR teacher/student databases (see under scale up and sustainability below).

Scale up and sustainability considerations

This project discontinued because the resources required to get the level and quality of reporting required were not possible within the project budget nor from GoR budgets on a sustainable basis. This shows that replication is only possible with (i) substantially increased funding or (ii) systemic changes within GoR to manage the data generated.

If replication is already difficult, nationwide scale up is even more complicated for very similar reasons. From the analysis in the scale-up document, adding new geographical areas does not lead to significant savings, it will just lead to a proportional cost increase. This is different from other IfE projects, where scale up usually leadings to a reduction/trimming of the unit cost of the support package and economies of scale.

This does not mean that scale up and sustainability are impossible, or not desirable. Experience from other countries proves that SMS reporting can work cost-effectively and function well. However, it is only possible if three systemic triggers are fully met: (i) the presence of an adequately comprehensive student database, (ii) the presence of an adequately comprehensive teacher management database and (iii) full institutional ownership of the system with activities written into job descriptions of decentralised level staff.

One of the most critical elements is the (lack of) incentives to report and how to deal with these. Apart from a 'systemic push' through a requirement to report, decentralised level stakeholders also need to see the usefulness of collecting these data and be willing to use them.

Cost Considerations

The economic analysis in EfC documents is very clear and comes with a very useful range of unit costs that make it possible to calculate the costs of various scale-up scenarios.

It is estimated that rolling a system out to 2 further districts (as per the original phase 2 of the pilot project) would cost, at a minimum, a further £379,214 for one year. Rolling it out nationwide would cost £1,897,313 for the first year, and £892,522 per annum after the first year.

It confirms that the costs of upscaling are considerable, do not represent VfM within the current system and are difficult to be carried by the GoR in the current circumstances. If the 'systemic triggers' (see above) are put in place, the situation may fundamentally change.

Immediate Next Steps

- There are no immediate next steps, other than MINEDUC/REB considering the establishment of the comprehensive individual student and teacher databases mentioned above, linked with the creation of systemic incentives to report as part of a national programme. If these 'triggers' materialise, it may become relatively easy and cost-effective to develop a real time SMS-based teacher/student attendance monitoring component within the GoR system.