

BURUNDI ASA (P161127): STUDY 2
REPORT ON THE QUALITY OF EDUCATION
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Table of Contents

Introduction.....	3
1. Description of the study and Burundi context	3
1.1 Methodology	3
1.2 Burundi context.....	4
1.3 Education reforms.....	4
1.4 Learning outcomes.....	4
2. Macroeconomics and policy analysis.....	9
2.1 Comparative situation of Burundi.....	9
2.2 Matching standards.....	10
3. Qualitative analysis	11
3.1 Research questions	11
3.2 Teaching time	11
3.3. Curricula standards.....	11
3.4 Curricula content.....	12
3.5 Teachers training, support and supervision.....	12
3.5.1 Initial teachers training.....	12
3.5.2 In service training	13
3.6. Teachers practices in the classroom	14
3.7. Languages of instruction	14
3.7.1. Comparison of the Kirundi and French languages	15
3.7.2. Linguistic transition	15
3.8. Support received home by pupils.....	16
3.9. Community contribution	16
3.10. Remedial instruction	17
3.11. Testing.....	17
3.12. School autonomy & management	17
3.13. Accountability.....	18
4. Micro economics analysis.....	18
4.1 Sources of variances.....	18

4.2 Factors at student level	18
4.3 Factors at classroom-teacher level.....	19
4.4 Factors at school/principal level	20
5. Conclusion and recommendations.....	20
5.1 Conclusion on the reasons for Burundian success	20
5.2 Way forward-Recommendations	21
References.....	23
Annex 1 : Data collection and methodologies	25
Annexe 2 : Interviews details	26
Annexe 3 : Interview and observations grids	28
Annex 4: Curricula expectations.....	31
Annex 5 : Linguistic transition	32
Annex 6 : Regression results	33
Annex 7 : Burundi indicators	35
Annex 8 : The Teacher Community Assistant Initiative (TCAI) in Ghana.....	37

Introduction

The objective of this report is to explain the relatively good performance of Burundi in the PASEC and EGRA tests. Burundi had the highest scores of all participating countries in the PASEC evaluation, well above other countries (one standard deviation, 100 points on a scale of 500). The EGRA results are also relatively good with acceptable levels of reading fluency and reading comprehension, close to Kenya and better than many other African countries¹. The core question here is: What drives this good performance? What are the reasons for Burundi's relative success? What actions can be envisaged to sustain and foster education quality in Burundi? What actions could be funded under a World Bank project?

1. Description of the study and Burundi context

1.1 Methodology

We will first adopt a macroeconomic point of view to compare Burundi's indicators and key policies parameters with other countries. A certain number of international standards have been set and it is against these desirable targets that we can compare Burundi's position. A brief literature review of the determinants of education quality will allow us to formulate a series of hypotheses to explain Burundi's performance. After using qualitative analysis, we will then mobilize microeconomics to identify determinants of individual and school performance that will shed light on actions that can be envisaged.

The analysis of administrative and legislative documents and teaching supports focused on the old curriculum (pre 2012/3), syllabus and cycle IV textbooks (lower secondary), as well as legislative texts related to the current reform. Most of the interviews with officials and education partners took place as part of a World Bank mission to Burundi from 13 to 24 March 2017. We met with education officials at ministerial, provincial, communal and school levels as well as the technical and financial partners in Bujumbura. The exchanges focused on the implementation of fundamental school reform: the challenges they face, school curricula and teacher training.

Unfortunately, we did not have the time to meet with the pupil's parents or attend a recently established school management committee meeting, which would have allowed us to assess further community participation. These new structures are not yet rigorously and systematically implemented. Interviews with teachers and principals took place in the form of group focus sessions. They focused on the teaching of reading and writing in cycle I and, in some cases, were followed by classroom observations.

As for the classroom observations,² they focused on the practices of the teacher and the activities of students in grades 1 and 2. Unfortunately, these field visits were conducted in an unfavorable period³. In general, visits to the classes of Bujumbura Mairie (Gikungu, Kamenge III and Mirango I), the provinces of Bubanza (école fondamentale (ECOFO) of Giko and Kigondeka), Karuzi (ECOFO of Kiyange I and II in DCE Shombo) and in Gitega (ECOFO of Tutegama) corroborated the observations we carried out in the LASCOLAF (2009-2010) and EGRA (2011-2012) studies.

¹ EGRA specialists warn of international comparisons across languages.

² See Annex 3 for observations grid. These grids are based from the work of Aigly Zafeirakou.

³ They began with the last week of the first trimester courses held on March 15, 2017. The exams that took place from March 17 to 31 were followed by the work of bulletins (3-5 April) before the proclamation of April 7 and The Easter holidays (from 8 to 23 April). It should be noted that even if the revision period has just been reduced from 3 to 1 day, the impact of examinations on the time of school learning is still evident (see point 3.2).

1.2 Burundi context

Burundi is a low income country with a GDP per capita of 277 (current USD) in 2015, one of the lowest in the World (World Bank). The poverty rate is 65% (RESEN). The total population is around 11 million, with a high density. Burundi is a predominantly rural country. **The youth (15-24) literacy rate (2008-2012) is 89.6 for male and 88.1 female, one of the highest in SSA.** There has been much progress in terms of education indicators – with the development of pre-schooling, for instance. The primary completion rate rose from 54% in 2009 to 71% in 2014 (comparable to the African average). The gross intake rate into lower secondary (“*collège*”) rose from 33% to 63% between 2010 and 2014. In the last years, Burundi spent around 6% of its GDP on education, with the support of donors who funded 35.8% of education spending in 2015, though the political crisis of 2015 provoked the withdraw of bilateral donors. The World Bank seeks to compensate this loss by reinvesting in the education sector.

Burundi has several unique features. First, **95% of the population speak one language (Kirundi)** which is the medium of instruction in the lower grades of primary (until grade 4). Second, like the DRC, around half of the schools are semi-private schools (“*écoles conventionnées*”), built and managed -- to a certain extent -- by religious communities. Last, substitute teachers are common⁴, a situation not often found in Africa.

1.3 Education reforms

Burundi has undertaken several reforms in the framework of its development plan (PSDEF 2012-2020). The core reform is the introduction of the “*Ecole Fondamentale*” to include 9 years of compulsory schooling. This entailed the shortening of lower secondary from 4 to 3 years, with these classrooms now being built in the compounds of the primary schools to allow for the establishment of basic education of 9 years on one campus.

The national syllabus has been revised starting with lower secondary materials (cycle 4, years 7,8,9), after the same curricula (per objective) had been used since 1989 at the primary level. As a result, Burundi, unlike many other countries that have conducted several pedagogical reforms, has enjoyed relative stability in terms of teaching materials and methods. **The consistency of the curriculum (from teacher pre-service training to school textbooks) over time, regardless of the quality and relevance of its content, might be a reason for Burundi’s good performance.** Indeed, in several countries, Benin is a good example, a competency-based approach has been promoted but with implementation problems and a disconnect between teacher practices and official instructions (CIEP⁵ 2009). These reforms might have created a form of confusion in the classrooms that negatively impacted learning outcomes. Hence a first suggestion is to properly implement the new syllabus by matching teacher training with textbooks and acknowledging the difficulty of changing teacher practices in the classroom.

1.4 Learning outcomes

Several sources of data concur regarding the relatively good performance of Burundi: the two PASEC surveys (2009 and 2014), the two EGRA datasets (2011 and 2012) and literacy surveys. The 2014 PASEC data shows clearly the position of Burundi: high performance both in reading and math in grade 2 (test in Kirundi), more than 100 points above average (500 points).

⁴ Substitute teachers are appointed to each commune, one or two by cycle depending on the size of the commune.

⁵ http://www.ciep.fr/sites/default/files/migration/publi_educ/docs/actes-reformes-curriculaires.pdf

Graphique 2.6 : Position des pays par rapport à la moyenne des scores nationaux en langue et mathématiques – Début de scolarité

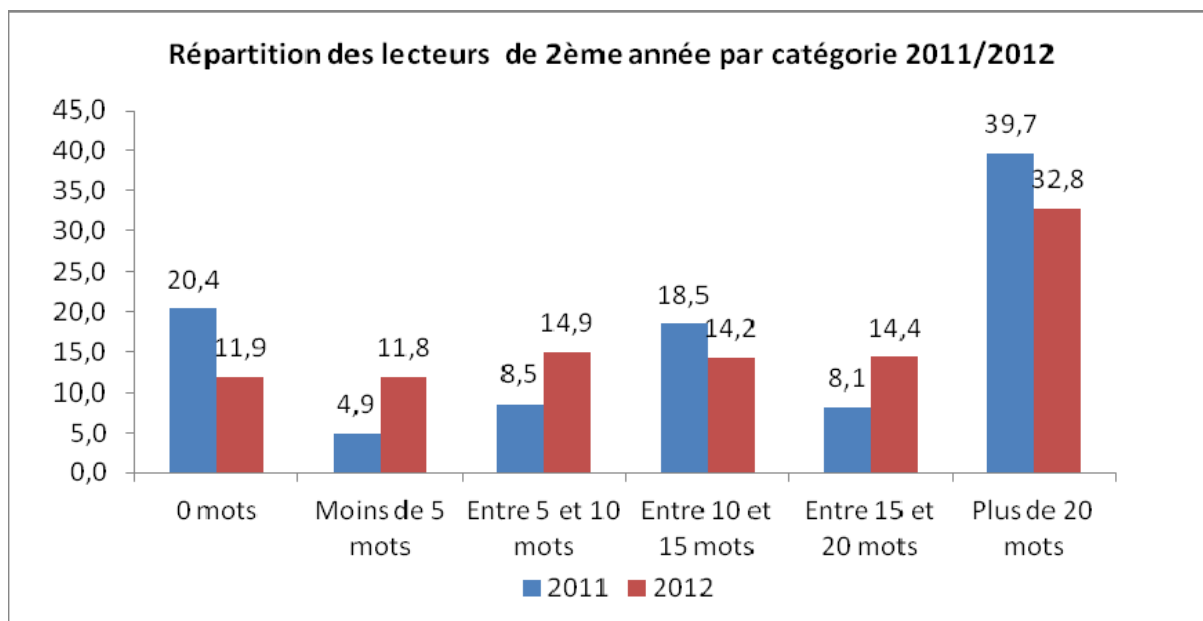


Source: PASEC (2014)

It is generally admitted in international surveys that half a standard deviation is equivalent to one year of schooling. That means that Burundi is two years ahead of other Francophone African countries. However, when considering international standards and levels of achievement in the industrialized countries, Burundi still lags behind. A comparison of the SACMEQ and PIRLS results (with common items) shows that southern African countries have a 4 year schooling gap in terms of learning outcomes when compared to the USA and Europe. Assuming PASEC and SACMEQ countries have the same achievement levels, Burundi is still 2 years behind northern countries.⁶

The distribution of oral fluency is described below:

⁶ In this comparison, Burundi has not yet met the international standards of educational achievement. As an example, still 37% of the pupils cannot count after 80 at the end of grade 2. Average reading fluency is around 26 words per minute in grade 2 (the same as Rwanda), below industrialized countries (where the median is 89 words per minute at the end of grade 2 in the USA (Hasbrouck (2006)). 26 words per minute, the average for grade 2 pupils in Burundi, falls in the 10th percentile in the USA. (<http://www.readingrockets.org/article/fluency-norms-chart>.) The assumption here is that if Kirundi is more transparent than English, results in Kirundi should be even higher than in English. Of course, the comparison is untenable in many other ways: the context in which Kirundi is used and learned and how literate an agrarian society like Burundi's is, compared to the context in the USA, is understood to be entirely different.



Source : Varly & Mazunya, (2012)

A maximum of 20.4% of non-readers in grade 2 (cannot read a word aloud) is observed in Burundi versus 33% on average for the countries participating in the EGRA barometer⁷ and an average of 53.8% in African countries. Burundi has the lowest proportion of non-readers among African countries.

Table : Proportion of non-readers by Country and maternal language

Country	Language	Grade	Proportion of non-readers
Burundi	Kirundi	2	20.4%
Liberia		2	30.7%
Uganda	Luganda	3	35.8%
Tanzania	Kiswahili	2	37.9%
Mali*	Bamanankan	2	64.2%
Ghana	Ewe	2	64.6%
Zambia	Chitonga	2	88.2%
Nigeria**	Hausa	2	88.3%
Average			49%

Source: <http://www.earlygradereadingbarometer.org/files/EarlyGradeReadingBarometer.pdf>

*Segou region, ** Kano region

In Grade 6, the situation evolves when pupils were tested in French. The PASEC performance of Burundi in reading is close to the average and now no longer outstanding.

⁷ <http://www.earlygradereadingbarometer.org/files/EarlyGradeReadingBarometer.pdf>

Graphique 2.9 : Position des pays par rapport à la moyenne des scores nationaux en lecture et mathématiques – Fin de scolarité



Source: PASEC (2014)

There might be a positive effect of learning in a mother tongue⁸ in the early grades. It may be that it creates a solid foundation that transfers into upper grades where the teaching is done in French, a foreign language only spoken at home by 3.2% of the grade 6 pupils (PASEC). In the 2009 evaluation, PASEC used both French and Kirundi⁹ languages to test pupils at grade 2¹⁰ and 5 in language (including reading, grammar and written expression). The table below shows quite clearly that in grade 2 the results in Kirundi are much better than the test in French.

⁸This has been widely debated in the literature.

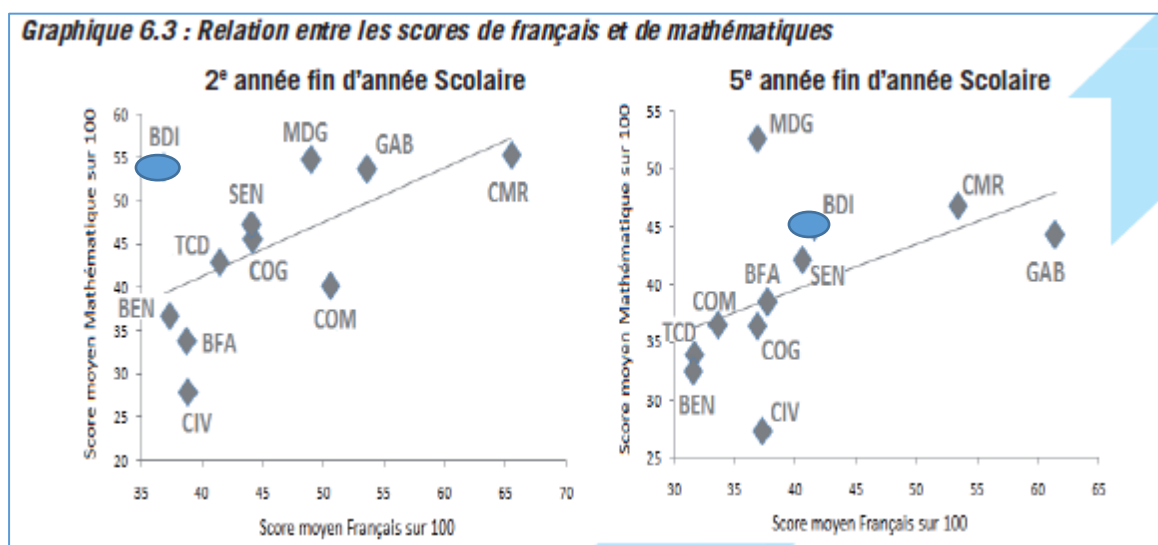
⁹Item were adapted/translated from the French version and equivalency of the adaptation was checked externally.

¹⁰ At this time, French became the language of instruction in grade 5, and is taught as a subject since grade 1.

2 ^e année	Moyenne (sur 100)	Écart type	Intervalle de confiance ¹⁷	
			Borne Inf.	Borne Sup.
Début d'année				
Français	23,8	20,3	21,3	26,3
Mathématiques	61,3	20,4	59,1	63,5
Kirundi	42,8	25,8	40,0	45,5
Fin d'année				
Français	36,9	18,6	34,6	39,2
Mathématiques	53,9	21,6	52,1	55,8
Kirundi	41,9	26,7	39,0	44,8

Source: PASEC (2010)

When French is used for international comparisons in grade 2, Burundi has one of the lowest performance¹¹ as shown by the graph below– even though it still has high performance in math.



Source: PASEC (2010)

In 2014, the fact that the Kirundi language is used to test pupils in grade 2 partially explains why Burundi is performing so well. In 2014, at grade 6, 40% of the pupils reached the highest level in math (level 3, problem solving) versus 7.4% in reading (level 4, complex inference). Assuming the highest PASEC levels match curricula objectives, Burundi pupils are still far from universally reaching national targets, especially in reading. Finally, girls outperformed boys in grade 6, an unfamiliar situation in Francophone africa. The gender parity index in enrolment is 0.99.

Finally, we present data on end of secondary examinations while acknowledging the difficulty to consider them reliable measures of schooling quality. Despite an increase of 7 percentage points between 2010 and 2013, the pass rate for the 10th year exam in 2013 remains extremely low. Indeed less than one student in four was declared admitted in 2013 to this examination while the rate was only 14% in 2010. The success rate of the State examination (or end-of-course examination of the humanities, the equivalent of a *baccalauréat*) was cyclical during the period: in 2013 it was at 27%, practically the same as the 2010 level, a slight contrast to its 2012 value where 31% of students were declared admitted.

¹¹The data in the graph differs from the data in the table since only a subset of items is used for international comparisons.

2. Macroeconomics and policy analysis

2.1 Comparative situation of Burundi

In the early 2000's, Mingat & al (2003) compiled a list of indicators and targets for reaching universal primary enrolment (UPE), referred to as the Fast Track indicative framework. The analysis, which relies on the trajectories followed by countries who reached UPE, provides a set of relevant factors for performance. Globally, countries that reached UPE devoted sufficient resources to education (with a focus on primary education and non-personnel expenses), had teachers with reasonable salaries, low repetition rates and the participation of the private sector in education provision. Pupils were equipped with school materials and had enough instruction time. We believe this framework, still used by organizations such as the Pole de Dakar and the Global Partnership for Education, is a good reference. We completed the list of indicators for Burundi with data from PASEC on learning conditions and outcomes in alignment with the literature on efficient schooling and minimum conditions to be met in schools (Abadzi (2006)). The data is found in annex 7.

First, what we see very clearly, as noted earlier, is that Burundi has very little linguistic diversity, particularly in comparison to, say, Cameroon where 280 languages are spoken. In all PASEC countries except Mali and Burkina Faso, the medium of instruction is the French language right from grade 1, a language not spoken at home. We believe this could be the main reason explaining Burundi's performance in the early grades.

Second, Burundi spends up to 35% of the state budget on education (excluding debt), a remarkable effort when compared to other countries (20% on average). **An adequate level of education expenses might indeed help explain good performance**, although statistical analyses over the world show little correlation between education budget and results (Altinok 2010). That said, the share of investment budget is low (1.9% of the education budget). In 2014 19% of the budget (35.9% in 2015) was funded by donors, in addition to contribution from donors allowing Burundi to benefit from technical expertise, rigorous budgeting mechanisms and monitoring and evaluation procedures. **Substantial education aid is probably another reason for Burundi's success.**

The share of private schooling is low or almost inexistent (1%). The repetition rate remains high above 20%, despite reductions in recent years. There is a high proportion of female teachers and school heads. Most teachers received 2 years of pre-service training but very little in-service training.

What is paradoxical is that class size remains high on average with uneven distribution and overcrowded classrooms in some schools when compared to other PASEC countries. **46% of the pupils operate in double shift**, a school organization detrimental to learning time. **There is a lack of textbooks in the classrooms** and only 5% of the schools have a library. The official annual teaching time is 855, 59 hours less than the SSA average (914). Only 22% of teaching time is devoted to Kirundi in grade 2.

Other PASEC data show that Burundi ranks on average in terms of school infrastructure and classroom equipment. Few schools have running water or electricity.

Rwanda shares similar patterns with Burundi but with a lower repetition rate. A comparison of EGRA results between the two countries, while noting that Kinyarwanda and Kirundi are very similar languages, shows that reading comprehension can be improved in grade 3 in Burundi. EGRA analyses and classroom observations show teachers tend to spend too much time teaching decoding to the detriment of comprehension. Teachers give little homework, where analyses show this could improve test scores -- especially when pupils get help at home (Varly & Mazunya 2012).

The allocation of resources (trained teachers, materials) in early grades compared to other grades is good in Burundi compared to other countries that tend to concentrate resources on upper grades. For example, 72.7% of grade 2 teachers have had two years of training compared to 68.2% in grade

6. It is well known that learning in the early grades is crucial. This is a potential explanation for Burundi's good performance.

When looking both at education inputs and results, Burundi remains an outlier. The country has its own particularities, such as high repetition rates, persistence of double shift classrooms, overcrowded classrooms, lack of textbooks, low private provision, low official instruction time, all of which are not conducive to learning according to the literature. With the exception of literacy rates (a cause and a consequence of good education quality) and the high proportion of female teachers, which are indicators associated with higher results¹², **contextual and policy factors do not explain Burundi's performance.**

Burundi does not fit the typical model that one usually associates with education performance.

2.2 Matching standards

Once again, if the learning outcomes and conditions are relatively good, Burundi is far from reaching absolute good standards. The color codes used in the table (in the annex) reveal areas where Burundi is far from standard -- both in absolute terms when available or when considering other country indicators.

From a cost-efficiency perspective, **some actions should definitely be envisaged, like deworming** and other health interventions, such as the provision of reading glasses. These interventions have proven to be quite effective. Given the problem of undernourishment in many Burundi families (RESEN), school feeding programs could also be an option to sustain attendance and learning.

From a budgetary point of view, Burundi should continue mobilizing domestic resources. Financial indicators are remarkably well aligned with the standards, with the exception of the proportion of non-salary expenses (20.5%) that could reach 33% with the help of World Bank. Private schooling could be supported. Repetition rates (mainly due to lack of classrooms in lower secondary) should be given attention. The construction of classrooms both in primary and lower secondary would certainly have a positive impact **on repetition rates, class size and the reduction of double shift, areas where Burundi reveals the greatest gap with usual standards.**

¹² <https://varlyproject.wordpress.com/2013/02/10/benchmarking-tools-for-universal-primary-education/>

3. Qualitative analysis

3.1 Research questions

Since traditional input indicators used to describe performance are of little use in the case of Burundi, one should dive a little deeper into a qualitative analysis. Further hypotheses can be formulated to explain Burundi's performance, in terms of:

1. Teaching time
2. Curricula standards
3. Curricula content
4. Teachers practices in the classroom
5. Nature of the Kirundi language
6. Support received at home by pupils
7. Community contribution
8. Remedial instruction
9. Testing
10. School autonomy & management
11. Accountability.

These factors, which are all found in the literature, can only be quantified with difficulty.

3.2 Teaching time

Concerning teaching time, since no dedicated study was performed, we rely on the PASEC data. Attendance seems average compared to other countries while official instruction time is low and double shift classrooms frequent. Moreover, student lose about a month at the end of each trimester preparing for and taking tests. As a result, we cannot conclude that Burundian pupils have higher contact time than their African counterparts. This could be investigated in more detail¹³.

In order to reach the UNESCO-requested standard of 1050 hours per year, the curriculum states that: "In Burundi, and in most countries we evaluate too much and badly". It is in this perspective that the new Cycle IV manuals have been developed and that, in addition to the increase in the transition rate towards the 7th year, the recent abolition of the national exam organized at the end of the 6th primary year has been transferred to the end of the 9th year, which should theoretically augment learning time. Indeed, the main concern of pupils, parents and teachers has so far focused on the success of this exam, which is considered elitist, if not Malthusian.

3.3. Curricula standards

The Burundian education system has experienced three main postcolonial innovations: (a) the 1973 reform which dealt with the kirundisation-ruralisation of schools, (b) the reform of the school curricula in 1989, and (c) the reform of the so-called fundamental school which started in the 2013-2014 school year. These three reforms pursued the same intercultural approach to early language / mother tongue learning. In addition to this, it should also be pointed out that primary textbooks have always been developed locally and not imported. Let us recall here the preponderant role played by the Catholic and Protestant churches which invested in literacy and evangelization in Kirundi. Initially, it was from catechism schools that schools developed. The written tradition of Kirundi, compared to other African languages, should be considered a plausible hypothesis for the high literacy rate in Burundi.

Compared to the previous 1989 programs, the new curriculum reflects on the new challenges documented in the PSDEF. The old programs did not take into account the high rates of repetition, or

¹³Pole de Dakar has plans to do so.

drop-out, as out-of-school youth easily reintegrated into a rural lifestyle. Another aspect to be considered is that Burundi, which is one of the poorest and most indebted countries, is in a post-conflict period marked by the AIDS pandemic, a galloping demographic generating land conflicts and degradation of the economy, environment, not to mention its digital gap. Thus, "education for responsible and sustainable citizenship" is also at the heart of the revision of the basic school curriculum and textbooks.

For points 2 and 3 above, curricula standards and curricula content, we submitted a summary of the syllabus and extracts of textbooks to an international expert in reading, Helen Abadzi. Her review indicates that in terms of educational standards and given the fact the medium of instruction is the mother tongue, **Burundi could have a more ambitious curriculum in matters of reading in the early grades**. The conditions of moving to another grade are slightly more restrictive than other countries¹⁴ and could explain the high repetition rates. In sum, the education standards of Burundi are not very distant from the other countries. However, in reading, curricula expectations are going to be increased. The designers of the BEPEF who are developing the textbooks for the 1st cycle propose a reinforced program of reading-writing. All the vowels and the single, double or triple consonants thus far studied over the 2 years of the cycle will be studied in the 1st year.

3.4 Curricula content

According to Abadzi, the textbooks, while relatively simple in their presentation and sequencing, rely on a mixed approach (whole word and syllabic) which is **not the most efficient method** in the context of developing countries, especially given the insights of neurosciences on the matter (Abadzi 2006). The sequencing of the lessons could be revised. These textbooks are under revision. It is fair to conclude that **Burundi's performance cannot be explained by its official curriculum**. But it could be explained by better teaching practices.

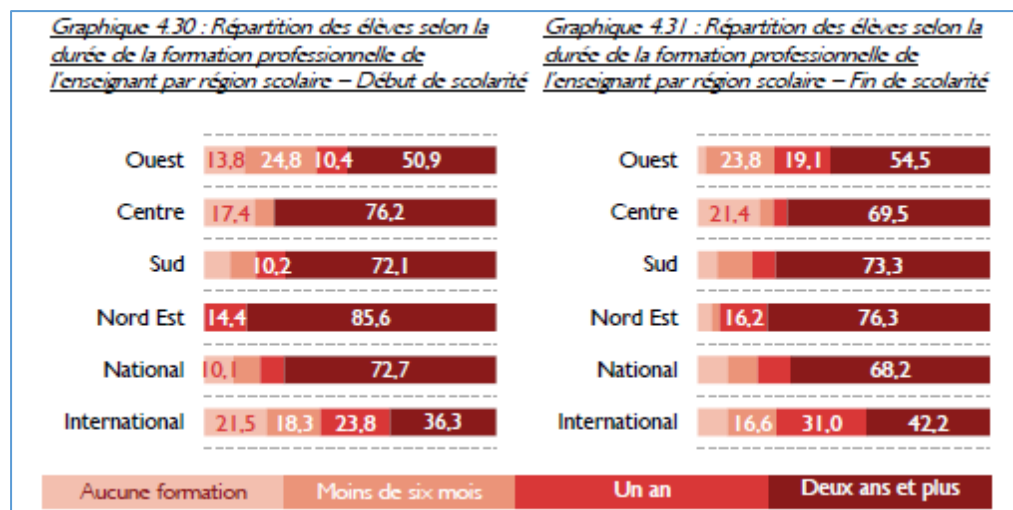
The curricula and teaching materials are designed by the Office of Pedagogy and Teaching for Basic Education (BPEEF (ex-BER)) for primary and imported or designed by the Office for Pedagogy for Post-Basic/Secondary Education (BEPES) for former colleges (current Cycle IV of the Fundamental). Currently the curriculum and textbooks are designed on-site, with the support of partners. The former primary school curriculum (BER, 1990) was based on three axes for Kirundi: "Tuvuge" (parlons), "Dusome" (lisons) and "Twandike" (written). The new curriculum is more explicit because it specifies the skills to be acquired in cycles. Please refer to Annex for curricula content.

3.5 Teachers training, support and supervision

3.5.1 Initial teachers training

The graph below show that Burundi primary teachers are relatively well trained compared to other countries, but with an uneven distribution across regions (especially in the western region). Teachers enter initial training after lower secondary (upper secondary in many PASEC countries and other African countries).

¹⁴ PASEC Meta data collection on education policies. Personal communication.



Source: PASEC (2014)

Initial training of primary school teachers is organized in teacher training colleges, which will gradually replace the Teacher Training Schools. It will be multi-purpose because the future teacher will learn how to teach all the disciplines of cycles 1, 2 and 3 in two years (D6 qualification), while teachers of the 7th, 8th and 9th grade classes (Cycle IV) have so far been trained at the *Ecole Normale Supérieure* and the University of Burundi in four years for D7 qualifications. The programs of these three structures were harmonized three years ago, within the framework of the BMD reform in higher education (Bachelor in 3 years, Master in another 2 years and Doctorate in another 3 years).

In principle, initial teacher training programs should be revised to conform to the new directions of the reform which requires a new profile for teachers. This is because there will be the introduction of new disciplines, such as Kiswahili, English and Entrepreneurship, on the one hand, and, on the other, teachers of cycle IV will teach several disciplines grouped together in the same field: in languages, for example, the same teacher may teach Kirundi and French, or Kiswahili and English. For the moment, teachers seem to be insufficiently prepared to teach English and Kiswahili without the proper content knowledge (Varly & Mazunya 2012).

3.5.2 In service training

The new curriculum makes teacher training a *sine qua non* for the success of the reform. Interviews with teachers have shown that the main innovations conveyed by the curriculum are often unknown or misunderstood by teachers. These include: a) Focus on student learning, b) grouping disciplines in fields, c) a new exit profile of the basic education laureate, d) reorganizing the time and the system of (F) the introduction of cross-cutting themes in the various fields. It will be necessary to accelerate their initial and continuing training in this direction.

The Ministry of Education carried out accelerated training courses for teachers in cycle 4, in summer 2014 for teachers in the 8th, in 2015 for teachers in the 9th and in April 2017 for the entire cycle 4. The objectives were to help teachers to assimilate the content of the curriculum of basic education, the structure and content of new textbooks and teacher guides, and the new pedagogical approaches advocated.

These in-service training courses, organized over five days for each group of teachers, were not sufficient, given the expectations of teachers of mastering new educational approaches and thematic and methodological innovations. In addition, the in-service training of teachers in cycles 1, 2 and 3 has not yet begun, as it can only be organized after the finalization of the relevant textbooks. It is

regrettable that this on-going development of textbooks has not been based on an evaluation of the old curricula and textbooks still in use, which would have highlighted good practices to be maintained.

In short, technical and financial support is strongly recommended to accompany the updating of the initial teacher training programs so that objectives and contents are in line with the aims of the reform. The same recommendation is valid for the organization of in-service training courses which are traditionally carried out in the form of out of school training sessions and are expensive. They can be accelerated and systematized by peers within the framework of the newly established school systems. Furthermore, given that the use of new communication and education technologies will become widespread, especially after all partners have greatly appreciated their experimentation in Burundi within the framework of the IFADEM.

3.6. Teachers practices in the classroom

EGRA classroom observations (snapshots) showed a high homogeneity of teacher practices across classrooms. The typical reading lesson is the following: teacher gives model reading, pupils read silently and some pupils read aloud. This is also found when analyzing teaching methods in other African countries (Bold 2017). However, Burundian teachers tend to speak more with one pupil while group work is rare. It could be an option in overcrowded classrooms. Only 10% of the observations recorded the teacher explaining or asking a question, a proportion close to other countries. The behavior of teachers does not vary between the 2nd and 3rd grades whereas one would expect that in the last grade there would be more time on reading comprehension than on reading aloud, according to the official program and teacher guidebook (Varly & Mazunya, 2012).

From a qualitative point of view, the same was noted during classroom observations in March 2017. On this occasion, classroom observations and textbooks led us to hypothesize that the performance of Burundian schoolchildren was due to the participative approach used in teaching of reading and writing in the 1st and 2nd years. The lesson of the day appears on both wallboards on the walls and on the blackboard with letters in color. The student textbooks also contain illustrations and capital phrases followed by their decoding, first in syllables and then in letters. With these teaching aids, various activities are organized: the reading of single words, phrases or text (containing double, triple or quadruple consonants); phraseology (that is, constructing sentences from new words), students sing these letters, go ahead to designate the upper and lower case letters on their books distributed by the teacher, write on the board or draw the animal or the object containing the letter studied, repeat collectively and individually, etc; the explanation of difficult words or expressions, the locating of words containing double, triple or quadruple words consonants, dictation, understanding of the text. In short, more in depth classrooms observations point at relative good practices : reading and writing are done at the same time, both playfully and actively.

For its part, the teaching of mathematics is based on a student's experience and aims to solve problems encountered in everyday life. The teacher leads the student to build his own knowledge in interactions with his fellow students. This learning of mathematics through activities starts from the concrete and leads to the abstract. The problem often mentioned by teachers is the absence of teaching aids such as objects to be manipulated to illustrate the addition, subtraction, division or multiplication operations.

3.7. Languages of instruction

In primary, Kirundi is used as medium of instruction until grade 4 and French takes over at grade 5 though it is taught as a subject from grade 1. Kirundi and French have linguistic resemblances and

differences that need to be taken into account in didactics. So, the linguistic transition that is to take place in grade 5, must be well prepared.

3.7.1. Comparison of the Kirundi and French languages

As mentioned by the teachers themselves, the difficulty of teaching Kirundi is the double and triple consonant (ex.: nti, ntwa), something which deserves more time being allocated to it in teaching (Varly & Mazunya, 2012). In addition, Kirundi, which is part of the greater Bantu language family, is a tonal language that is made complex by its double and triple consonants.

However, teaching / learning of Kirundi does not present specific difficulties as a mother tongue. On this question, psycholinguistic approaches show that cognitive and language development is the same in all mother tongues, at least at the level of the spoken language. The problem does not therefore arise in terms of intrinsic difficulties but in terms of access to writing, especially in African countries without a written tradition. Kirundi needs to be strengthened at the level of the official codification of its spelling on the one hand and on the other hand at the level of its lexicon which needs to be enriched and modernized in order to meet the new technological requirements of globalization. New policy in Burundi (2014) makes many recommendations in this direction.

By comparing Kirundi with French, we find that these two languages have the pedagogical advantage of sharing the same Latin alphabet, which is not the case for children who have Arabic as their mother tongue or script that does not include Latin letters, as in Mali, and who must make their first contact with reading-writing in French as a foreign language. However, the writing of Kirundi is phonological, whereas that of French which is historical is at the basis of the many difficulties related to the learning of its spelling. At the morpho-syntactic level, Kirundi is a synthetic language whereas French is rather analytical. Textbooks do not sufficiently emphasize those aspects of contrasting linguistics that allow teachers to identify the origin of their pupils' faults and then adopt appropriate pedagogy for the treatment of linguistic and cultural interference.

3.7.2. Linguistic transition

The curriculum recognizes that, since 2007, "learning 3 foreign languages (English, French, Kiswahili) in the first year represents an important cognitive overload for most students. Orally, they must become familiar with systems organized differently (syntactically, lexically and phonologically). Moreover, the simultaneous confrontation of students with four grapho-phonological codes makes learning more difficult and time consuming. The mastery of the language of schooling and the first entry into writing are essential for the quality of learning and the success of schooling."

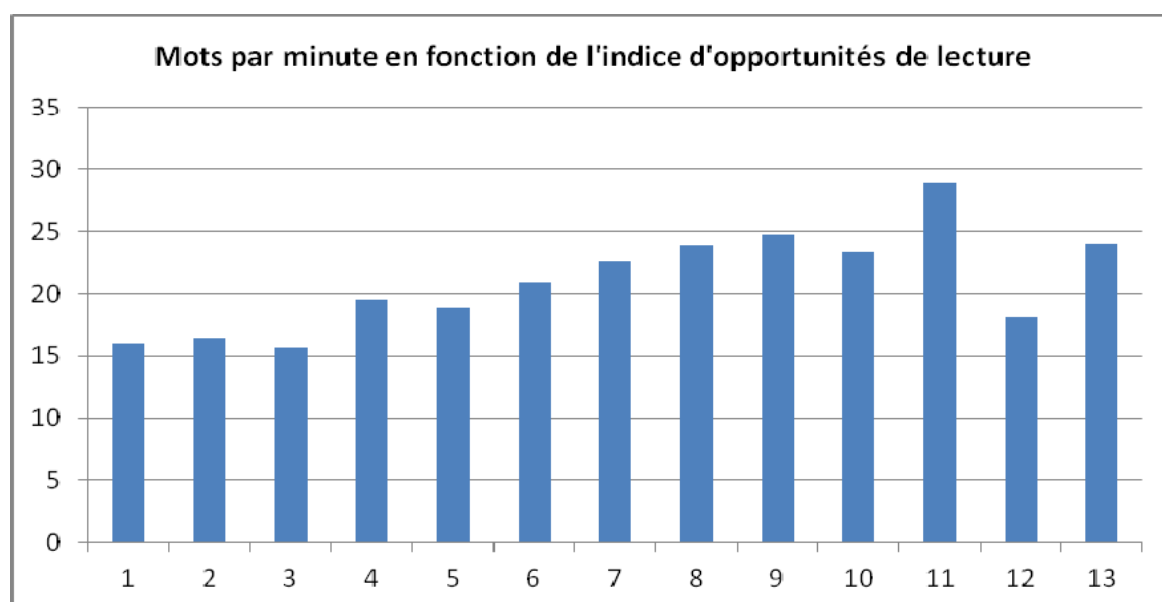
With this in mind, some of the curriculum recommendations need to be implemented, which could significantly increase the time devoted to core subjects such as languages of instruction, mathematics and science. In particular, it is necessary to shift the current simultaneous teaching of the four languages from the first year onwards and to envisage a smoother linguistic transition of the languages of instruction. French is used as medium of instruction in grade 5. Please refer to Annex 5 for details on the linguistic transition.

As for the linguistic transition model, several studies admit that the quality of learning is good when students learn consistently in the mother tongue. This is the case of Burundi where the good performances of pupils would be justified by the teaching in Kirundi until the 4th primary year. Considering that "the transition from one language of instruction to another is a crucial and difficult step in student learning," the curriculum proposes "a gradual linguistic transition to Cycle 3 as outlined in Annex 5.

The Ministry of Education considered the generalization of bilingual education by piloting it in some schools from 2012 to 2015, as part of the ELAN-Africa Francophone initiative (School and national languages in Africa). The ELAN-Africa project organized training courses for teachers in the so-called integrated or convergent didactics of Kirundi and French and, on the other hand, contributed to the development of integrated teaching materials¹⁵. These tools have provided teachers with a contrasting approach to the phonological, morpho-syntactic and lexical structures of Kirundi and French, as well as to the linguistic and didactic complementarity of the teaching languages and didactics of non-linguistic disciplines such as mathematics.

3.8. Support received home by pupils

45.7% of grade 3 teachers never give homework (28.3% in grade 2) though daily practice of reading is known to improve results (Moore and others, 2017). Less than 15% of the pupils have books at home. 41% of students report never reading at home in the 2nd year. 43.5 and 33.9% of pupils in grade 2 and 3 respectively reported not receiving help at home. Most aid comes from brothers and sisters, parents provide little support despite relatively high literacy rates. Opportunities to read at home¹⁶ are clearly associated with higher results as shown below (Varly and Mazunya 2012). Generally speaking, children have little opportunities to read home.



Source :Varly&Mazunya (2012)

81.8% of grade 6 pupils participate in farming activities, the highest proportion in PASEC countries. This is not conducive to school related activities.

3.9. Community contribution

Burundian households contributed 38% of current expenditure on education in 2013. Burundian families spend an average of 67% of their total education expenditure on various types of education (enrollment, school fees and other fees), 15% for the purchase of school supplies, 13% for uniforms (school and sports gear) and 6% for transportation (Pole de Dakar 2017).

In addition to these valuable financial contributions, there is talk of more involvement of parents in the new school management committee (CGE), which, according to the law, is run by a member of

¹⁵These include bi-grammars and the bilingual lexicon Kirundi-French and French-Kirundi for pedagogical use. The index of reading opportunities at home combines several indicators such as the availability of books at home, frequency of reading and help received in homework. An evaluation of this pilot was carried out but it was not rigorous.

the community democratically elected by the parents, with the school director just being the secretary.

3.10. Remedial instruction

First, PASEC data and other sources of information have consistently pointed at the relative inefficiency of repetition as a remedial strategy (Bernard & al 2005). Indeed, in Africa the test scores of repeaters are often lower than the others. Burundi is a special case, where repeaters do not have significantly different scores than others in the early grades (PASEC 2014). The repetition process might be more effective in Burundi than in other countries. The selection criteria for promotion to higher grades are also more restrictive in Burundi than in other countries¹⁷.

In reading, the remedial strategies used by teachers are: more individual reading time, requiring help from parents, help from other pupils, homework and finally delivering remedial sessions. It seems remedial strategies can be improved in Burundi and do not fit with best practices. Other solutions can be tested, as shown in Annex 8, relying on teacher's aide or peer support. Given that repeaters do as well as non-repeaters, remedial practices are rather good in Burundi compared to PASEC counterparts.

In Burundi, some wealthy parents are used to paying for evening classes for their children, especially in urban areas. The results are seen in the ranking of schools in examinations and end-of-cycle tests. The Ministry of Education has called for reinforcement courses paid and provided by classroom teachers who tended to ignore pupils not enrolled in these courses. However, more detailed studies should show the place given by teachers to remediation.

3.11. Testing

An effective testing system in the classroom is a factor for the improvement of learning outcomes but one with potential side effects (causing, for instance, teaching for the test). The national Ministry of Education examination directorate is operational and experienced. It has participated in international assessments, EGRA and national assessments (including value added of schools). Training sessions on the EGRA tools were delivered in the region in 2012. The relative good assessment system is also an explanation of Burundi performance.

The Burundian education system places emphasis on evaluation-grading, which, it says in the new curriculum, "often drives learning and leads teachers to favor what will be" useful and effective "to the detriment of social importance and / or personal learning. "Thus, about one-third of the time spent in school is devoted to systematic evaluations which" are logically at the heart of pupil repetition procedures and "justify" a classification of schools according to their results. The implementation of the reform, centered on learning, should give the opportunity for a certain evolution of practices and representations that exist socially. The ideal approach would be a system where teachers would be able to say what the students have learned and if these skills and knowledge are sufficient to follow in the upper class."

3.12. School autonomy & management

More school autonomy, under certain conditions, is an avenue to improve learning (Hanushek 2013). The "*écoles conventionnées*" have some autonomy in terms of pedagogical practices and as a result have higher scores than public schools. However, in the public sector, the system is heavily centralized as in other Francophone African countries. Though there is a move to decentralization, for the moment centralization is still prevalent and so this decentralization could really be described as de-concentration.

The semi-private schools that are 'sous-convention,' are generally run by Catholic and Protestant religious groups. They are better equipped and better directed than public schools with a lay director

¹⁷PASEC metadata collection on education policies. Personal communication.

who does not always have the same physical availability and the same spirit of dedication. From the year 2016-2017, the Government has just created a dozen schools of excellence that are intended to compete with the good reputation of these schools.

3.13.Accountability

Accountability at different levels of the education system is also a factor associated with better learning outcomes. School supervision is pyramidal: the school supervisor supervises the administrative and pedagogical course of the courses and reports to the municipal education directorate. It reports to the provincial level, where it is routed to the central government, which draws conclusions on the level of continuing education needs. In short, it can be said that the quality of education stems from leadership at all levels.

4. Micro economics analysis

The following section investigates individual and school level performance factors by analyzing regression results on PASEC and EGRA data.

4.1 Sources of variances

First, multilevel analysis show that the variance comes mostly from the pupil level (73.3% at grade 2 and 81.5% at grade 6, the highest proportion among PASEC countries) rather than school level. In reading, 93.3% of the variance between pupils and 56.1% of the school variance remains unexplained. This means that a large amount of potential variation of the performance arise from the pupil's environment and communities. EGRA analyses yield similar findings.

PLS regression undertaken in the EGRA 2012 report shows that 20.3% and 14.2% of students' reading fluency variation is respectively explained by the student's opportunity for reading at home and the level of supervision he or she receives (Varly & Mazunya 2012, Richard 2011). These results show that when **students benefit from a relative's support at home with homework and/or frequently practice reading at home, this positively influences reading results**. Additionally, having literate parents increases a student's opportunity to receive supervision at home. Most pupils (79.4%) have at least one literate parents. Support from parents is an avenue for improving learning outcome.

School and principal characteristics also explain a significant variation (12.6%) of students' results. **Insecurity severely impacts students' schooling**. On the other hand, "sous-convention"¹⁸ schools, which often benefit from more experienced principals and are thus potentially better managed, show a higher proportion of autonomous readers. Best students might also enroll in those schools (self selection). On the contrary, **teacher's pedagogical practices and behaviors in the classroom explain little variation of student achievement** in reading. The reason for this could lie in the fact that in Burundi most teachers use traditional teaching practices in reading and offer little remedial intervention. Teachers spend most of time reading texts and listening to students' reading it out loud. The table I Annex 6 summarizes regression models on test scores.

4.2 Factors at student level

Both EGRA 2011 and 2012 assessments demonstrate that students' characteristics and the supervision they receive at home, have a positive impact on their reading ability. Children with greater opportunities of reading at home, with the possibility to bring their textbook home, and who receive support from their family, demonstrate better results. EGRA 2011 results also show that students who speak Kirundi with their parents or have literate parents demonstrate greater success in their reading results. Pre-school has no significant effect, unlike in other countries.

¹⁸ In Burundi, like in France, these are schools that follow the national curriculum but are operated by non-governmental entities, like the Catholic or Protestant church. They are similar in some ways to Charter Schools in the US.

During the 2011-2012 school year, the Burundian Ministry of Education decided to proceed with a nation-wide distribution of Kirundi textbooks in primary school early levels, which allowed 96.6% of students to use a textbook during reading activities in 2012, against 58% in 2011. Despite the positive impact of using a textbook in the classroom for students shown in EGRA 2011 assessment, the greater availability of textbooks in Burundian classrooms in 2012 is not correlated with students' reading results in the model, since the binary variable "Use of a textbook at home" shows practically no more variation. Pupil's textbook ratios dropped in 2014. This must be investigated.

While, in EGRA 2011, age has a positive impact on students' results, once controlling for repetition, in PASEC 2014, students' age has a significant negative effect on both students' results in mathematics and reading. In the PASEC model, the age variable may capture part of the repetition impact, and this hypothesis is supported by the 2011 EGRA model where the repetition variable at student level has a negative impact on students' reading results. However, in the EGRA model there is no clear correlation at school-level between the proportion of non-readers and repetition rates.

Moreover, in PASEC, no significant difference has been found between children who completed preschool education and those who did not. Similarly, a student's socio-economical background does not have an impact on results in the model which is a very atypical result. Burundi primary reading and mathematics scores are above the average of those participating francophone SSA countries, which supports the hypothesis of a high proportion of "positive atypical children"¹⁹ – that is, that the education system in Burundi succeeds in reducing the socio-economical inequalities that may affect students' progress.

4.3 Factors at classroom-teacher level

In Burundi, teachers do not favor dynamic learning interactions with and between students in the classroom, such as remediation by peers or comprehension activities, and largely resort to more traditional teaching practices²⁰. When observing EGRA 2012 regression results any conclusion about the influence of teachers' in-classroom pedagogical practices on students' performance cannot be easily made. However, as demonstrated by both EGRA assessments, when analyzing the isolated effect of specific pedagogical practices, it does appear that **the time devoted to individual support by teachers and the use of peer support in the classroom improve students' results**. In addition, in EGRA 2012, almost half of the Grade 3 surveyed teachers never give homework to their students, while at this grade level students acquired greater reading competencies which can be easily improved by daily practice of reading at home. However, in EGRA 2011, 77% of students who have the opportunity to bring their textbook home are autonomous readers, against 71% for those who do not have this possibility²¹. The opportunity of bringing their textbook home is not necessarily associated with a higher frequency of actually reading at home. High illiteracy rates and poor support from relatives with homework could explain these observations.

The two EGRA assessments and PASEC 2014 results show that **teachers' characteristics, such as seniority, level of diploma or gender do not impact students' results**. In Burundi, teachers have a homogenous level of initial training, with respectively 72.7% and 68.2% of Grade 2 and Grade 6 teachers having received a minimum of two years of pedagogical training.

¹⁹ Positive atypical children are defined as children with low socio-economical background who belong to the best performing students at the end of their primary schooling, often referred as "resilient" pupils.

²⁰ Varly & Mazunya 2012, pp.38-39

²¹ Varly & Mazunya 2011, p.83

However, when a teacher devotes more time to support a student individually, the three assessments show greater students' reading results, irrespective of the class size. Moreover, in EGRA 2012, the average performance of the classroom has a significant and positive impact on individual performance.

That said, EGRA 2011 and PASEC 2014 results show differing results for class size: EGRA 2011 suggests that when exceeding 40 students and PASEC when exceeding 60 students per class,²² **the class size has a negative impact on students' results**. Finally, the PASEC 2014 model estimates that the level of school equipment, infrastructure (teacher's room, toilets, playground, running water and electricity), and pedagogical resources positively impact students' reading competencies.

4.4 Factors at school/principal level

The high rate of insecurity in and around the schools impact learning. With the 2015 political crisis, violence has increased in the country, and several assaults have been reported in schools, which severely alters the learning environment for Burundian children. In the 2011 EGRA model, "*sous-convention*" schools appear to have greater results than public schools, which may be explained by the better school management there, as corroborated by the **positive correlation of students' results with the frequency of meetings organized by the principal with teachers**.

5. Conclusion and recommendations

5.1 Conclusion on the reasons for Burundian success

From a macro-economic point of view, Burundi is an outlier both in terms of input and learning outcomes. Burundi spent 35% of his budget on education and its education expenses structure is well aligned with international standards. Burundi receives a substantial aid for education. As long as resources are turned into results, education expenses are probably the first reason for Burundi's success. Literacy rates are high due to the interventions of the religious communities. The relative written tradition of Kirundi, compared to other African languages, is to be considered as one of the plausible hypotheses of the high literacy rate in Burundi that positively impact pupils learning.

However, class size and repetitions rates are high, double shift account for 46% of the classrooms and official schooling time is low. The classroom and school equipment can be improved and levels are close to other countries average. There is a lack of textbooks in the classroom, lack of books in the schools and at home and pupils have little opportunities to practice homework. Violence is frequent in and outside schools. The learning conditions are relatively poor in Burundi and not conducive to achievement. Learning conditions do not explain Burundi good performance. However, a focus on resources on the early grade is specific to Burundi and could explain why results are good in grade 2.

Teaching conditions appear to be better than in other African countries and Burundi teachers have more positive opinions than others in that regard (PASEC2014). Most teachers have had two years of initial training and the curricula, until now at least, has not changed over time. Teachers have enjoyed a certain consistency in terms of official instructions and in school textbooks that are being revised and can be improved. While better curricula both in terms of content and standards cannot be cited as a reason of success, teachers are better prepared to teach than in many countries. They also benefit from pedagogical supervision and supplementary teachers.

Their pedagogical practices in the classroom are similar to other African countries and explain little variation of the performance. However, in the early grades, teaching and learning is facilitated by the fact that the medium of instruction, Kirundi, is the home language of teachers and pupils. This is

²² The PASEC 2011 report (p.44). The RESEN 2016 states that there is no statistically significant effect of class size of between 40 and 60 on student performance, though there is above 60 (RESEN 2016, p.77).

corroborated by PASEC scores that are much lower in French than in Kirundi. The relative simplicity of the maternal language it is the core reason for Burundi's relative success.

Burundi still does not reach international standards in many respects. The withdraw of the bilateral donors and the political crisis and violence clearly jeopardize recent progress in the education sector and stress the need for further multilateral financing. Another strong incentive to invest in Burundi's education sector are the unit costs which are much lower than in African countries, particularly in testing or school construction (insert unit cost compared). To do so, interventions from the World Bank should be aligned with the education plan, well localized, driven from evidence and tailored to be efficient. Under these conditions, we can identify priority areas and recommendations to support the implementation of the education plan and the reforms. These are the syllabus and at the level of the "*école fondamentale*".

5.2 Way forward-Recommendations

Area 1: Support to curricula reform

The revision of the syllabus should well planned, articulated logically and supported logistically and financially CIEP (2009). In order to do this, the reform should start with revision of the official instructions, setting feasible standards, teachers guide book, textbooks and other materials, teachers training, monitoring and evaluation.

To support the revision of the syllabus, recommendations are to:

1. Provide peer review (Rwanda among others) of the draft textbooks produced with the assistance of CIEP and UNICEF
2. Associate teachers with the revision of the syllabus
3. Revise initial training programs according to the new syllabus
4. Deliver in-service training based on the newly developed materials
5. Support teachers pedagogical supervision
6. Equip teachers supervisors with classrooms observations instruments
7. Pilot and monitor the implementation of the new curricula in the classrooms
8. Organize an evaluation of the learning outcomes in lower secondary at the start of the project (baseline) and three years after (end line).
9. Conduct an assessment of teachers' academic and pedagogical knowledge in French language teaching.²³
10. Revise the repartition of the subjects in the timetable in the early grade, allowing more time for Kirundi.

Area 2: Improve learning conditions

The learning conditions are still far from standard. We recommend to:

1. Build classrooms in primary and lower secondary to reduce class size and repetition rates;
2. Provide all pupils with textbooks they can take home;
3. Provide children with low-cost reading booklets to improve the possibility of reading at home;
4. Build and equip school libraries or community reading centers accessible to students after school;
5. Equip all schools with latrines and running water;
6. Ensure all pupils receive deworming treatment and are equipped with reading glasses when necessary;
7. Develop school feeding and health programs.

Area 3: Develop remedial support for students in and out of the classrooms

Pupils should have more opportunities to work in and outside schools.

²³ IFADEM has started working in this area.

1. Ensure pupils are given homework;
2. Organize awareness campaigns for parents in support of pupils' homework;
3. Promote differentiated remediation for students who have reading difficulties;
4. Diversify the use of pedagogical practices/support in the classroom, in order to favor more dynamic interactions between students and teacher, through teachers training;
5. Encourage remedial practices such as peer remediation in the classroom.

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Annex 1 : Data collection and methodologies

In Burundi, two EGRA data collections were conducted in 2011 and 2012 with support from the World Bank, and the country participated in the 2009 and 2014 PASEC evaluations. While the 2011 EGRA test concerned only Grade 2 students, the 2012 test also included Grade 3 students and allowed a comparison of Burundi's results with EGRA conducted in Rwanda in the same year (including a common subset of items). PASEC tested Grade 2 and Grade 6 students, but the statistical model used only allows an analysis of students' performance in relation to contextual factors at the end of primary school cycle.

While EGRA uses the number of words read per minute and reading comprehension to measure student reading performance, PASEC, besides using an average score on a 500 scale, defines four levels of reading competencies, and a threshold that demarcates the minimum level of competencies required for students to continue their schooling. The tests were adapted into Kirundi and background questionnaires were administered to students, teachers and school principals in order to capture contextual elements at student, classroom-teacher, and school-principal levels. EGRA background questionnaires are derived from PASEC. Early grades students were tested in Kirundi while grade 6 students were tested in French.

In 2012 EGRA and 2014 PASEC, some variables were pooled into indexes (ex. the opportunity to read at home, innovative teaching support, etc.) in order to facilitate the understanding of the results. In comparison with the 2011 EGRA, the 2012 assessment includes a set of new variables derived from the observation of students' and teachers' in-classroom practices. It allows for in-depth analysis of the impact of teachers' pedagogical practices on students' reading progress.

The EGRA assessments use a statistical method that includes an initial student score that captures part of a student's environment effect and the student's innate capabilities. The 2011 EGRA model uses the number of letters read per minute at student level, taught at grade 1, which best reflects students' competencies when entering Grade 2. More detailed information on data collection and methodology is available at Annex 1.

Annexe 2 : Interviews details

CHRONGRAMME DES RENCONTRES DU 13 AU 24/3/2017	
13/3/2017	
9h00-	Réunion Technique au siège du Bureau de la Banque Mondiale à Bujumbura
	1. Objectif : passer en revue les réunions prévues de la mission, etc.
	2. Participants : Experts de la Banque Mondiale : Simon Thacker ; Serge Theunynck et Maurice Mazunya, Nestor KOFI : Représentant de la BM à Bujumbura
14h00 -	Réunion au bureau de Mme la Ministre de l'Éducation
	1. Objectif : Echanges sur les objectifs/méthodologie de la mission
	1. Participants : - Dr Janvière NDIRAHISHA : (Ministère de l'Éducation), Mme Chantal BAYINJURA (DGBP). - Experts de la Banque Mondiale : Simon Thacker ; Serge Theunynck et Maurice Mazunya,
15h00	Réunion au MEESRS avec C. BAYINJURA (et son équipe)
	1. Objectif : Programmation des réunions prévues
	2. Participants : - Experts de la Banque Mondiale : Simon Thacker ; Serge Theunynck et Maurice Mazunya, Secrétaire permanent (Ministère de l'Éducation), - Mme Chantal BAYINJURA : DGBP, Neema, Malysie : Point focal PSDEF et Faisabilité, Mr Tharcisse NCAMUMIKANI: Point focal qualité de l'éducation, Mr Jerome : Point focal Construction,
14/3/2017	
9h00	Réunion au bureau de l'UNICEF avec des Partenaires (UNICEF, Afd, Belgique, PAM, etc)
	1. Objectif : Echanges sur les objectifs/méthodologie de la mission
	2. Participants : - Experts de la Banque Mondiale : Simon Thacker ; Serge Theunynck et Maurice Mazunya, - Unicef (Nicole, Céline Chef éducation, Gervais ARNAUD, - CTB (Joël LEROY Delco Projet FIE (joel.leroy@btcctb.org, 257 71615129), Makhlof ZEMMOURI Expert international Education-Formation(mczemmouiri@gmail.com.), Sylvère SUGURU (sylvère_suguru@yahoo.fr, 79927522), Université du Burundi. - PAM (Mme Liliane BIGAYIMPUNZI, Mr Claude KAKULE
11h00	Réunion au MESSRS avec C. Bayinjura (et équipe)
	1. Objectif : Organisation des visites de terrain Bubanza Gitega Karuzi
	2. Participants : Experts de la Banque Mondiale : Simon Thacker ; Serge Theunynck et Maurice Mazunya+ équipe Chantal BANJURA
14h00	Réunion avec les Conseillers du BEPEF
	1. Objectif : Elaboration en cours des manuels des cycles 1, 2 et 3
	2. Participants : Mazunya + équipe du domaine des langues chargée d'élaborer un module de formation des enseignants du cycle IV
15/3/2017	
9h00	Réunion à l'École Primaire de Gikungu (Bujumbura mairie)
	1. Objectif : Entretiens et observations de classes
	2. Participants : Mazunya + Directrice et enseignants de l'EP Gikungu
14h00	Visite à la DCE Ntchangwaet dans les écoles primaire de Kamenge et Mirango 2
	1. Objectif : Entretiens et observations de classes
	2. Participants : Mazunya + DCE Ntchangwa, Directrices et enseignants
16/3/2017	
10H00	Visite de terrain à BUBANZA
	Objectif : Analyse de l'état de mise en œuvre du projet pilote et visite de 2 Écoles Fondamentales
	Participants : Experts de la Banque Mondiale : Simon Thacker ; Serge Theunynck ; Hervé Rabakoson et Maurice Mazunya, points focaux du Ministère, + Vincent KAMENYERO , CORDAID, 79 979 600)
10H30	Réunion d'échanges au bureau du Gouverneur de la Province de Bubanza
11H30	Réunion à la DPE Bubanza -NDAYIZIGA Venant (dpebubanza@gmail.com), 69 3618650, 71 533 534)+ KIZOGOMBE . -Clément Secrétaire du CE ADDIS Caritas Bubanza (69361 650, 71B533B534
13H00	Visite de l'École Fondamentale de GIKO (Bubanza) Directeur : Thierry Ndikumana '61993412) -Maître responsable des cycles 123 (a.i en l'absence du dir Ecole)
15H00	Visite de l'École Fondamentale de Kigondeka (Bubanza): Pas d'élèves car le jour du test provincial
16H00	Voyage vers Gitega
17/3/2017	
9H 00	Visite de classe et entretiens à la DCE Shombo (Karuzi) Nitunga Désiré Conseiller DCE Ressources humaines (69610363)
13H00	ECOFO KIYANGE I et II (DCE Shombo, KARUZI)
	Objet : Focus-groupe sur la mise en œuvre de la réforme et les défis de l'école
	Participants : équipe venue de Bujumbura avec -Nsengiyumva Pasteur Directeur ECOFO Kiyange I : 79212362/69251183) -Twarayezu Théodosie enseignante 2A (71011397/69429380) -Ntibishimirwa Elisabeth 2Eb 79308944) - Nizigiyimana Nicelath 2A (71880196 /161246) -Ndayisenga ezéchiel 1ère (79318486/69
15H30	ECOFO Rutegama (GITEGA)
	Objet : Focus-groupe sur la mise en œuvre de la réforme et les défis des écoles
	Participants : équipe venue de Bujumbura avec - Denis Nduwimana (DCE) (69479842, dpe-service@gmail.com) -Philibert Habonimana (DCE, 79212024, 69484028), habonimanaphilibert@yahoo.fr - Niyonkuru Libérat (Directeur ECOFO Rutegama 79818298 69892760) - Ndiho Kubwayo Désiderate (maîtresse –responsable, 79720541/69107697)
20/3/2017	
11h00	Réunion au MEESRS autour des axes du PSDEF

	Objectif : évaluer le progrès de la réforme vis-à-vis des piliers 'accès et rétention + « qualité' (voir PSDEF p.22)
	a) Accès et rétention (voir Tharcisse et Chantal (éducation inclusive, Qualité b) Qualité : Voir Chantal pour Manuels scolaires, le Bureau des évaluations (MANENENGERI Patrice 71 206 459) pour examens et concours c) Pilotage et gestion : Direction de la Planification de l'éducation
	21/3/2017
9H00	Entretien de Maurice avec le Directeur de la Radio Scolaire Nderagakura et visite de la Régie des Productions Pédagogiques
	22/3/2017
10H30	Réunion avec le Directeur du BEPEF (Tharcisse Habonimana) sur la qualité de l'éducation (Simon Thacker et Maurice Mazunya)
	23/3/2017
9H00	Réunion avec le Bureau du Bureau des Evaluations (MANENENGERI Patrice 71 206 459) (Simon Thacker et Maurice Mazunya)

Annexe 3 : Interview and observations grids

I. GUIDE D'ENTRETIEN AVEC LES DIRECTEURS ET LES INSPECTEURS
Fonctions de la personne rencontrée :
Lieu d'affectation :
I.1. Les défis du système éducatif burundais
1.1. Dans quelle mesure la précarité des parents, le genre et les inégalités entre les zones rurales et urbaines affectent-ils les résultats de vos élèves?
1.2. Que pensez-vous des initiatives déjà prises par le Ministère (lesquelles ?), les collectivités locales (Lesquelles ?) ou les partenaires de l'éducation (ONG ex .cantines scolaires soutenus par le PAM, etc.) pour faire face à ces défis ?
1.3. A votre avis, quelles sont les initiatives prioritaires que le Gouvernement devrait prendre pour améliorer la qualité de l'éducation au Burundi, notamment au niveau de :
1.3.1. La formation initiale des enseignants ?
1.3.2. La formation continue des enseignants?
1.3.3. La révision et la disponibilité des manuels scolaires adaptés ?
1.3.4. Le temps scolaire (points de vue sur la double vacation)?
1.3.5. L'implication des parents dans le suivi des élèves et les apprentissages scolaires ?
1.4. Quels sont vos avis sur l'ampleur des absentéismes, des abandons, des redoublements, des violences sexuelles et des grossesses non désirées dans votre région?
1.5. Qu'attendez-vous de la nouvelle politique éducative du Gouvernement résumée comme suit ? a) « Une école par colline » b) « Un comité de gestion de l'école (CGE) » qui, selon la loi, est dirigé par un membre de la communauté élu démocratiquement par l'assemblée des parents d'élèves, le directeur étant secrétaire.
1.6. A votre avis, quel sera l'impact de la récente suppression du concours national sur l'évaluation et les apprentissages scolaires ?
1.7. Avez-vous déjà entendu parler du programme « Ecole amie de l'enfant » implanté en 2013-2014 ?
1.8. Avez-vous déjà entendu parler du programme « Ecole et langues nationales en Afrique ? Si oui, qu'avez-vous retenu de ce programme?
I.2. Programmes scolaires et formation des enseignants
2.1. Que proposeriez-vous à votre Ministère pour que les programmes et les manuels scolaires des cycles 1,2,3 du primaire qui ont plus de 25 ans soient révisés pour s'intégrer dans la réforme de l'école fondamentale qui a démarré en 2013 ?
2.2. Comment trouvez-vous le niveau des enseignants recrutés et leurs besoins en formation continue ?
2.3. Que recommanderiez-vous comme données essentielles à privilégier au cours de la révision des programmes de formation initiale des enseignants de l'école fondamentale
2.4. Connaissez-vous des <u>formations continues des enseignants</u> organisées au cours de ces 5 dernières années? a. Combien b. Durée des formations c. Contenu
2.5. Dans quelle mesure la moyenne trop élevée des effectifs dans la classe affecte-elle la qualité des enseignements?
2.6. Etant donné que la maîtrise de langue d'enseignement par les élèves et par les enseignants est un facteur incontesté de réussite scolaire : a) Comment trouvez-vous les niveaux de ces derniers en kirundi et français, langues d'enseignement ? b) Et que proposeriez-vous comme années des enseignements en kirundi d'abord, et en français ensuite ?
2.7. Pensez-vous qu'il faut encourager les enseignants à expliquer au kirundi les notions difficiles à faire comprendre en français ou qu'il faut les obliger à ne pas utiliser la langue maternelle dans une leçon de/en français ?
2.8. Quelles solutions envisageriez-vous pour promouvoir la lecture chez les écoliers(surtout en milieu rural où les livres de lecture sont rares)?
II. IDENTIFICATION DE L'ECOLE VISITEE
Ecole primaire de :
Commune :
Province :
Date :
Ecole a) publique b) privée c) sous convention
Ecole a) rurale b) semi-rurale avec électricité c) urbaine
Km de distance avec la direction provinciale de l'éducation
Description de l'école (infrastructure, personnels, etc.)
Personnes rencontrées
III. ENTRETIEN AVEC L'ENSEIGNANT
3.1. Informations sur la classe
Classe de :
Nombre d'élèves dans la classe :
Nombre de redoublants :
Nombre d'abandons au cours de l'année :
Nombre d'élèves absents au cours :
Pratique de la double vacation :
Ration filles/garons :
Nombre d'élève par banc :
Nombre d'enfants avec chaussures :

3.2. Identification de l'enseignant
Dernier diplôme l'enseignant (formation initiale)
Nombre d'années d'ancienneté dans le métier
Nombre d'années d'ancienneté dans la classe
Nombre de visites pédagogiques du Directeur au cours de cette année
Nombre d'autres visites pédagogiques au cours de cette année
Nombre de stages de perfectionnement au cours de ces 3 dernières années (formation continue)
3.3. L'enseignement de la lecture
3.3.1. A votre avis, le passage de l'enseignement en kirundi vers l'enseignement en français devrait partir de quelle classe ? Dites pourquoi.
3.3.2. Pensez-vous qu'il faut a) encourager les enseignants à expliquer au kirundi les notions difficiles à faire comprendre en français b) ou qu'il faut les obliger à ne pas utiliser la langue maternelle dans une leçon de/en français ?
3.3.3. Quelles sont les difficultés que vous rencontrez en classe quand vous enseignez a) la lecture ? b) l'écriture ?
3.3.4. Au cours de votre formation initiale ? Avez-vous appris une méthode d'enseignement de la lecture, ? a) Non b) Oui c) Si oui, laquelle ?
3.3.5. Avez-vous appris une méthode d'enseignement de la lecture, au cours de vos formations continues ? a) Non b) Oui c) Si oui laquelle ?
3.3.6. Décrivez la méthode que vous utilisez pour enseigner la lecture au 1 ^{er} cycle?
3.3.7. Pensez-vous que les enseignants : a) évaluent individuellement le niveau des élèves en lecture et en écriture après les 1 ^{ères} et 2 ^{ème} années ? b) Si oui, pouvez-vous dire que ces enseignants utilisent des pratiques de rattrapage pour les élèves faibles? c) Expliquez-les ?
3.3.8. Vos élèves ont-ils accès à des livres de lecture a) dans votre école ? b) en dehors de l'école ? c) en famille ? d) Si oui quel genre de livre ?
3.3.9. Quelles solutions proposeriez-vous pour promouvoir la lecture chez les écoliers (surtout en milieu rural où les livres de lecture sont rares)?
IV. OBSERVATIONS DE LEÇON
4.1. Informations sur la leçon
4.1.1. Date et heure :
4.1.2. Sujet de la leçon :
4.1.3. Quel est le numéro (quantième) de la leçon enseignée aujourd'hui ?
4.1.4. Matériel utilisé : tableau noir, tableau syllabique, craie, bâtonnet, fichier du maître, Livret de lecture (élève) ; planches murales, cartons, dessin au tableau, texte au tableau, cahier de l'élève, stylo, etc.)
4.2. Pratiques de l'enseignant
4.2.1. L'enseignant maîtrise la langue d'enseignement 1=Assez bien, 2=bien, 3=Très bien
4.2.2. L'enseignant maîtrise la matière enseignée 1=Assez bien, 2=bien, 3=Très bien
4.2.3. L'enseignant fait le rappel de la leçon précédente 1=Oui, 2=Non
4.2.4. L'enseignant a) parle à toute la classe, b) s'adresse à un petit groupe, c) parle à un seul élève
4.2.5. L'enseignant demande aux élèves de l'écouter 1=Oui, 2=Non
4.2.6. L'enseignant fait une lecture modèle à haute voix (1= Oui, 2=Non, 3=Quelque fois)
4.2.7. L'enseignant demande à chaque élève de lire individuellement (1= Oui, 2=Non, 3=Quelque fois)
4.2.8. L'enseignant explique des mots non connus par les élèves par des gestes, des images 1=Oui, 2=Non
4.2.9. L'enseignant corrige l'erreur de l'élève en lui expliquant comment décoder et lire 1=Oui, 2=Non, 3=Quelque fois
4.2.10. L'enseignant suit toutes les étapes de la leçon selon le fichier du maître 1=Oui, 2=Non 3=Quelque fois
4.2.11. La gestion du tableau noir : horaire, écrits de l'enseignant, écrits ou lecture des élèves
4.3. Activités des élèves
4.3.1. Chaque élève a son propre manuel et l'utilise 1=Oui, 2=Non 3= ration livres/élèves
4.3.2. Chaque élève pointe les lettres, les syllabes et les mots avec son doigt quand il (elle) lit ?

1=Oui, 2=Non, 3=Quelque fois
4.3.2. Les élèves lisent en chœur
4.3.3. Lecture individuelle à haute voix
4.3.4. Lecture silencieuse
4.3.5. Ecriture sur un support, au tableau
4.3.6. Les élèves a)écoutent/Regardent l'enseignant b) répètent/Récitent c) lèvent souvent la main pour poser une question ou répondre d) dérangent
4.3.7. Autres :
4.3.8. Synthèse sur l'enseignement de la lecture
5. PRISE DES PHOTOS ET DES VIDEOS DE LA CLASSE (pour visualiser les pratiques observées et les croiser avec les observations et les entretiens avec les propos des responsables de l'éducation et des enseignants eux-mêmes, notamment en ce qui concerne les pratiques de classes).

Annex 4: Curricula expectations

Let us take the case of the first cycle (years 1 and 2) in Kirundi, in French and in calculation:

1. Kirundi

- A) Linguistic tools, grammar, enrichment of the lexicon: No metalinguistic work, but an initiation to the structure of the language by implicit structural exercises.
- B) Reading / Writing: Alphabet (double, triple and quadruple consonants,). Classify words by the 1st letter, decipher new words read / recite narrative text, poetic informative. Read a very short familiar text (narrative, informative, poetic), Write a very short narrative text (lived experience, imaginary) Copy a short text correctly.
- C) Oral production / comprehension: decipher new words read / recite a narrative text, poetic informative. Orally cut a sentence into words, syllables and phonemes. Recite a short patrimonial text. Telling events of everyday life, a short story imagined.

2. French

- A) Linguistic tools (vocabulary, grammar / conjugation): Produce and understand simple simple expressions about people and things. Use oral expressions of politeness (thank, apologize, etc.).
 - B) Phonology: Distinguish and pronounce the basic phonemes of French. Cut out a word orally in syllables.
 - C) Literacy: grapho-phonological skills for the linguistic repertoire already constituted. Spell, read and write a single word.
 - D) Listening / Speaking: Ask a question and answer it. Sing a song, recite a rhyme. Produce a simple sentence from an image.
 - E) Written Comprehension / Production: Connect a written word to an image. Write a word corresponding to an image. Understand the context elements of a very short text.
- In future language textbooks, all lessons will be organized on ten themes from the era to the 9th fundamental.

3. Calculation

- A) Number and Numeration: Read and write in numbers and letters the integers up to 99. Give meaning to the counting and use of the digits and their position in the number.
- B) Operations: Addition and subtraction. Resolve sharing and distribution problems.
- C) Measurements and markings: compare lengths, masses, capacities, objects and then use an unconventional unit then the usual units. Identify events in a timeline and characterize durations.
- A) Geometry and Space: Locating and locating objects in the world around us using spatial vocabulary. Classify plane figures according to properties (shape, color, side number, size). Names, plots and classifies lines (curved, broken, straight, closed and open, vertical, horizontal) freehand or with the aid of material. Use paper to make folds, cut geometric shapes and a pencil to make drawings

Annex 5 : Linguistic transition

Table 1: Linguistic transition

Cycle	Grade	Medium of instruction	Languages taught
1	1	kirundi	Kirundi (oral and written), French (oral)
	2	kirundi	kirundi, French
2	3	kirundi	kirundi, French, English (oral)
	4	kirundi	kirundi, French, English
3	5	French (or English in the long term)	kirundi, French, English, kiswahili
	6		
4	7		
	8		
	9		

Table 2 : Domains taught by language

Cycle	Grade	Domains taught in Kirundi	Domains taught in French
2	4	Tous sauf les Maths	Maths
3	5	Arts et EPS, Entrepreneurship, Social Sciences	Maths, Sciences and Technologies
	6	Social Sciences, Entrepreneurship	Maths, Sciences and Technologies, Arts et Sports
4	7	No domain	All domains
	8		
	9		

Annex 6 : Regression results

	Explanatory variables of students' reading performance	EGRA 2011	PASEC2014	PASEC 2009
		Coefficient		
		Grade 2	Grade 6	Grade 5
Initial score	Number of letters read per minute for EGRA; score at pretest for PASEC	0,032***	NA	0,616***
Students	Student is a girl	NS	NS	-0,0594*
	Age	NS	-9,0***	-0,0303**
	Family wealth level	NS	NS	NS
	Student has attended preschool	NS	NS	NS
	Student repeated Grade 1	-0,66*	NS	NS
	Student repeated Grade 2	-0,075**		
	Student speaks French at home	0,215*		0.0141
	Student speaks Kirundi at home	0,109*		0.225**
	Student speaks Kiswahili at home	NS		
	Teacher helps the student (differed remedial practice)			0.287**
	Use of a textbook in the classroom	NS		
	Possibility to bring reading book at home	NS		
	Parents' literacy level	NS		NS
	Student has the opportunity to read at home	0,129***		
Education support at home	0,105		-0.0623	
Classrooms	Classroom level			

	Classroom size (Reference: Less than 60 students per class)	-0,120*	-8,2***	-0.004*		
	Number of dropping-out of school students in the classroom	NS				
	Number of textbooks in the classroom	NS				
	Teacher characteristics					
	Teacher is a woman	NS	NS	0.104*		
	Years of experience	NS	NS	NS		
	Diploma level	NS	NS			
	Duration of teacher initial training	NS		NS		
	Teacher has completed a continuous training during the last 3 years	NS		-0.247**		
	Pedagogical practices					
	Use of inductive method	NS				
	Teacher works individually with students	0,104*				
	Pedagogical resources					
	Use of a teacher's guide	NS	4,3*	NS		
	Use of textbooks	NS				
	Use of audio supports	NS				
	Use of reading books	NS				
	Use of images	NS				
	Remedial practices					
	Teacher works individually with students in difficulties	NS				
	A group of students works with students in difficulties	0,093**				
	Teacher give homework to students	NS				
	Teacher asks for parents support	NS				
	Organization of remedial classes	NS				
	Schools	Principal characteristics				
		Gender	NS	NS		
		Principal underwent a training on school management during the last 2 years	NS	NS		
School conditions						
The school is public		NS	NS			
School receives a materiel support from parents		NS				
Use of an absence register for teachers		NS				
Year from which students read fluently according to teacher		NS				
School infrastructures index		NS	4,1*			
Land development index			3,8*			
Insecurity index	NS					
Observations		1719	3461	2343		
R²		0,6046		0.5113		
Constance			531,6***	0.505		
10% significance : * ; 5% significance: ** ; 1% significance: ***						

Source: MCO Models, EGRA 2011 and PASEC 2014 and 2009 Results' reports

Annex 7 : Burundi indicators

Category	Indicator	Burundi	Year	average PASEC countries or comparative countries	Rwanda **	International standard	Source
Socio-economics	Fertility rate	5.9	2014	5	4.6	na	WB
	Population growth rate	3.3%	2013	2.9%	2.3%	na	PASEC
	Linguistic diversity	0.007	na	0.84	0.089	na	SIL
	Share of pupils with at least one literate parent, primary end of cycle	79.4%	2014	53.5%	na	na	PASEC
Education spending	% education spending as share of GDP	6.1%	2011	5.0%		6%	PASEC
	Share of education spending in current state budget, debt charge excluded	35%	2014	20%	30%	20%	RESEN
	Share of current spending allocated to primary education (excluding foreign aid)	49.1%	2014	Na	49%	50%	RESEN
	Teachers average salary as a % of GDP per capita in primary	4.1	2014	Na	2.6	3.5	RESEN
	Teachers average salary as a % of GDP per capita in secondary	4.7	2014	Na	6.4	4.5	RESEN
	Share of current spending devoted to non-personal expenses (primary education)	20.5%	2014	Na	50%	33%	RESEN
	Share of investment expenses in education budget	1.9%	2014	Na		na	RESEN
	Share of foreign aid in education expenses	19.5%	2014	Na		na	RESEN
Learning and teaching conditions	Share of private schooling, primary	1%	2014	Na	2.4%	10%	RESEN
	Share of private schooling, secondary	8%	2014	Na	6.6%	na	RESEN
	Repetition rate, primary	24.5%	2014	Na	12.6%	10%	RESEN
	Repetition rate, lower secondary	22.5%	2014	Na		10%	RESEN
	Share of teachers with two years of education, primary end of cycle	68.2%	2014	42.2%		na	PASEC
	Share of teachers having received in-service training, primary end of cycle	58.2%	2014	83.1%		100%	PASEC
	Share of female teachers, primary end of cycle	81.2%	2014	22.1%		na	PASEC
	Share of female school head, primary	77.4%	2014	22.8%		na	PASEC
	Class size, primary end of cycle	44.1	2014	46.7%	62	40	PASEC
	% pupils in double shift classrooms	46%	2014	Na		0	RESEN
	Share of pupils with one language textbook, primary end of cycle	5.1%	2014	35.7%		1	PASEC
	% Schools with library, primary	5.1%	2014	12.4%		na	PASEC
	Annual instruction time (official)	855	2016	914	na	1000	PASEC
	Attendance index*	60%	2014	69%			PASEC
Share of pupils with deworming	62%	2014	42%		100%	PASEC	
Outputs	Achievement rate, primary	71%	2014	61%	75%	100%	RESEN

Gender parity index	99.2%	214	92.2%		100%	PASEC
Access to secondary education	63%	2014	44%	57%	100%	PASEC
Share of pupils that can read at least one word, grade 2	97%	2014	73.8%		100%	PASEC
Share of pupils that can count over 80, grade 2	63%	2014	23.9%		100%	PASEC
Number of words read per minute, grade 3	26			26	45	EGRA
% reading comprehension correct, grade 3	35%			53%	80%	EGRA
PASEC test score start of cycle, reading	627.7	2014	500		na	PASEC
PASEC test score start of cycle, math's	605.1	2014	500		na	PASEC
PASEC test score end of cycle, reading	525.4	2014	500		na	PASEC
PASEC test score end of cycle, math's	593.6	2014	500		na	PASEC

Indicator above average or close to standard

Indicator slightly under average or standard

Indicator well under average or standard

*(Number of pupils absent this day according to teacher / Number of pupils) <20% AND Teachers late or absent according to director is rare or inexistent

** Pole de Dakar and World bank data

Annex 8 : The Teacher Community Assistant Initiative (TCAI) in Ghana

Innovation for Poverty Action (IPA) assessed the impact of a primary school remediation programme set up by the Ghana Education Services, the Ghana National Association of Teachers, and the Ghana Youth Employment and Entrepreneurial Development Agency (GYEEDA), a public agency promoting youth employability.

The remediation programme consists in four interventions:

- 1) Immediate remediation, simultaneous to the formal sequence of teaching, by community education assistants to the least performing pupils
- 2) Deferred remediation, outside the formal sequence of teaching, by community assistants to the least performing pupils
- 3) Community education assistants provide remediation to a randomly selected group of pupils per grade level that consists in a review of the formal education program in reading and mathematics
- 4) Provide training to teachers on immediate remediation practice, consisting of organizing the class into groups of pupils, organized by level of competencies, and adapt teaching support and practices according to each group.

Community education assistants, as well as teachers, received a one-week training course on remediation pedagogy, which included the presentation of remediation tools (e.g. diagnosis of pupils in difficulty, learning environment arrangements), as well as training in teaching materials and educational content adapted to remediation practices in reading and mathematics. The salaries of the community assistants were covered by GYEEDA.

Of the four interventions, **immediate remediation and deferred remediation by community education assistants were those that significantly improved student performance** in a sustainable manner. Indeed, one year after the end of the program, the students targeted by these interventions performed better than their peers. These two interventions also proved to be the most cost-effective.

From the TCAI, it appears that peer remediation also known as peer tutoring has a positive influence on pupils' achievement. Peer tutoring is a pedagogical support system based on an identification mechanism and anchored in a mutual learning process. The tutor is a priori not a teaching professional, and proximity of age, social and cultural background, and education path between the tutor and the tutored pupils facilitate the identification mechanism.

Peer tutoring initiatives generally consist of voluntary help from a high school or university student towards a lower-level student or group of students who have demonstrated academic, motivational or behavioral difficulties. Tutoring must be voluntary and can be remunerated or gratified with school credits. Tutors must have good relational and social qualities, and great academic competencies. Peer tutoring can be used as a remediation or a prevention practice.

Source: authors from IPA (2015)