



Ushirika wa Maendeleo ya Elimu Barani Afrika
الرابطة لأجل تطوير التربية في إفريقيا
Association for the Development of Education in Africa
Association pour le développement de l'éducation en Afrique
Associação para o Desenvolvimento da Educação em África

Research Brief

Urban-rural differences in teachers' qualification and competences in primary education in Francophone Sub Saharan Africa



 April 2024

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Key policy messages

- There is a shortage of qualified teachers in most countries in Francophone Sub Saharan Africa, and this appears to be more pronounced in rural areas, reflecting the challenges of attracting and retaining qualified teachers in the countryside.
- Case studies should be undertaken in countries of relatively balanced allocation of qualified teachers across urban and rural areas (e.g., Senegal and Côte d'Ivoire) to identify good practices and lessons that can be documented and potentially adapted in countries where the urban-rural divide is important.
- The specific situations of Burundi, Chad, Congo, Madagascar, Niger, and Democratic Republic of Congo reflect pressing need of educational reforms to address important education inequalities. Targeted and relatively easy to implement initiatives such as offline digital training-of-trainer and mentorship platform for education with a focus on rural teachers can be convenient solutions to start with.
- Overall, there is a need to rethink deployment and transfer strategies so to equitably allocate qualified teachers and tackle the challenge of recruiting and retaining qualified teachers, particularly in remote and rural areas. One possible solution is to design data-driven and Information and Communication Technology based-allocation mechanisms that are adapted to each context, efficient, and individually rational both for teachers and schools.

Authors acknowledge input from ADEA in this brief and are grateful to Parfait Menou (Benin), Patrice Manengeri (Burundi), Abdoulaye Sankara (Burkina Faso), Jules Kweuke (Cameroon), Roger Daïbibé (Chad), Patrice Ndoudi (Congo), Komlan Nouwokpo Samati (Niger), Oumar Diagne (Senegal) and Kossi Kpomégni Tsali (Togo) for providing routine data of their respective countries. Corresponding email: s.alidou@afdb.org.

1. Introduction

The quality of education in Sub-Saharan Africa (SSA) continues to be generally low, with existing research indicating that while children attend school, they are not acquiring the necessary skills (referred to as the “learning crisis”).¹ One key dimension of the issue of education quality in SSA is the availability and the quality of teachers employed in the education systems. The main drivers of teacher shortages are rapid education expansion, increased financial pressure on education budgets, insufficient teachers’ preparation, and qualifications, but also difficult working conditions, poor social support, and lack of respect for teachers (International Task Force on Teachers for Education 2030, 2021).

According to the UNESCO Institute for Statistics (UIS), the proportion of qualified teachers in primary education in SSA declined from 84% in 2000 to 69% in 2019². Moreover, preference for urban postings because of valid reasons³ often result into unequal allocation of the available qualified teachers across urban and rural areas, all of which may partly explain significantly lower performances of students at schools in rural areas compared to those at schools in urban areas consistently observed in the Programme d’Analyse des Systèmes Educatifs de la CONFEMEN (PASEC)’s assessments (PASEC, 2020).⁴

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- 1 In 2021, the World Bank estimated that 53 percent of children in low- and middle-income countries cannot read and understand a simple story by the end of primary school. In poor countries, the level is as high as 80 percent. <https://www.worldbank.org/en/topic/education/brief/what-is-learning-poverty>. Last consulted on October 10th, 2023.
 - 2 <http://sdg4-data.uis.unesco.org>. Last consulted on October 10th, 2023.
 - 3 These include quality of life and accommodation (Akyeampong and Lewin, 2002), classroom facilities, school resources and access to leisure activities (Towse et al., 2002), and more opportunities for professional advancement and for side activities (Mulkeen, 2005).
 - 4 PASEC stands for Program for the Analysis of Education Systems of the Conference of the Ministers of Education of French-Speaking Countries.



This research brief is part of a broader research project on teachers transfer strategies and educational inequalities in Sub Saharan Africa. It provides an up-to-date overview of teachers' qualification in urban and rural areas in primary education in Francophone Sub Saharan countries – both in terms of availability of qualified teachers and their actual competences and skills –, and questions countries strategies for the deployment and the transfer of teachers. To do so, it exploits routine data collected in 10 (Benin, Burkina Faso, Burundi, Cameroun, Congo, Côte d'Ivoire, Gabon, Democratic Republic of Congo – DR Congo hereafter –, Guinea, Madagascar, Niger, Senegal, Chad, and Togo)⁵ of the 14 countries which participated in PASEC2019, the latest international learning assessment of the program.

5 These routine data could not be obtained for Congo, Gabon, DR Congo, and Guinea and are therefore missing from the analysis in section 2.

2. Proportion of qualified teachers in urban and rural areas



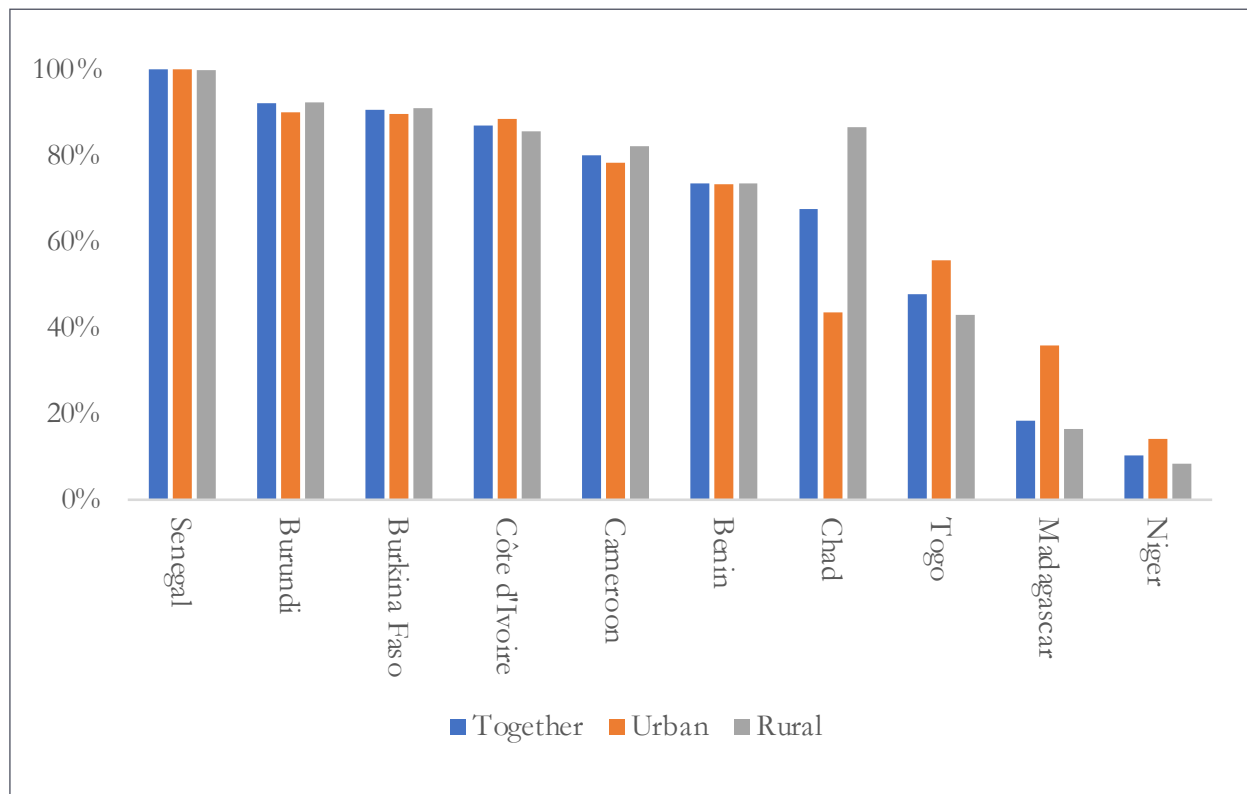
PASEC's countries have medium to low Human Development Index (HDI); 6 are at the bottom 10 of the HDI ranking (Guinea, Burkina Faso, Mali, Burundi, Niger, and Chad) and 7 are on the African Development Bank's 2023-2025 list of transition states.⁶ The average percentage of the population aged 0-14 years in 2022 is of 43.1% in these countries, resulting in a great pressure on educational services provision to governments. In 2022, the proportion of qualified teachers (as per national criteria) varied from 10.3% in Niger⁷ to 99.9% in Senegal. More than 7 teachers out of 10 meet the minimal requirements to be considered qualified

in Senegal (99.9%), Burundi (92.0%), Burkina Faso (90.5%), Côte d'Ivoire (86.9%), Cameroon (80.0%) and Benin (73.4%); and the difference between urban and rural areas in these countries is less than 5 percentage points. In Chad, the proportion of qualified teachers is higher in rural school: 86.5% against 43.6% in urban schools, for a country average of 67.6%. The opposite situation is observed in Madagascar, Niger, and Togo where the qualified teachers are more present in urban schools. These last countries also have the lowest proportion of qualified teachers (47.8%, 18.3% and 10.3%, respectively).

6 "Transition States" are countries that are faced with situations of fragility and conflict. (Source: African Development Bank Group: www.afdb.org, last consulted April 23rd, 2024). In this context, "Fragility" is defined as "a condition where the exposure to internal or external pressures exceeds existing capacities to prevent, respond to, and recover from them, creating risks of instability." (Source: Fragility Strategy, African Development Bank Group: www.afdb.org).

7 As from 2021, Niger has changed the minimum diploma for qualified teachers from end of secondary school diploma to end of high school diploma, which partly explains the very low proportion of qualified teachers.

Figure 1 : Proportion of qualified teachers across urban and rural areas in 2022



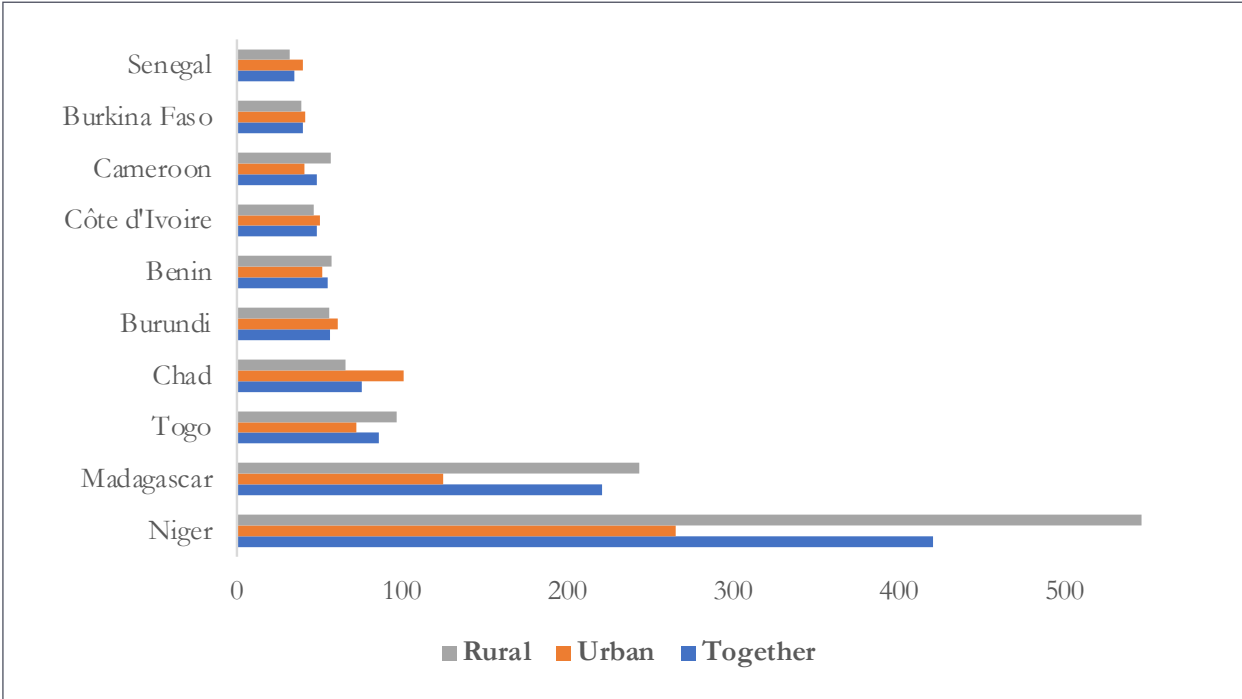
Source: Authors, based on routine data collected from educational systems of the countries in August-September 2023

Very low proportion of qualified teachers and their concentration in urban areas in Niger and Madagascar result into high number of pupils per qualified teacher as well as important urban-rural gaps in these two countries. In Niger, there are more than 500 pupils per qualified teacher in rural schools against 264.6 in urban schools, for a national average of 420.2. The corresponding figures for Madagascar are 242.9 against 124.5, respectively, for a national average of 220.3. There are also relatively more pupils for one qualified teacher in rural schools in Togo (97 in rural areas against 72 in urban areas for a national average of 86), in Cameroon (56 in rural areas against 41 in urban areas for a national average of 48) and in Benin (57 in rural areas against 51 in urban areas for a national average of 55). However, the urban-rural gaps are less important than in the case of Niger and Madagascar.

On the contrary, the pupils per qualified teacher ratio appears to be relatively lower in the countryside in Burkina Faso (39 in rural areas against 41 in urban areas for a national average of 40), in Côte d'Ivoire (46 in rural areas against 50 in urban areas for a national average of 48), in Burundi (56 in rural areas against 61 in urban areas for a national average of 56), and in Senegal (32 in rural areas against 40 in urban areas for a national average of 35). Somewhat in line with significantly higher proportion of qualified teachers in rural schools, there are also less pupils for one qualified teacher in rural areas

in Chad: 65 pupils against 101 in urban areas for a national average of 75. The pupils-qualified teacher ratio is higher than 40 in all countries, except in Senegal and Burkina-Faso. They are above 50 in Benin, Burundi, Chad, Togo, Madagascar, and Niger, which suggests an overall shortage of qualified teachers available to pupils, potentially negatively impacting the quality of education in most countries. Moreover, the shortage of qualified teachers appears to be more pronounced in rural areas, reflecting the challenges of attracting and retaining qualified teachers in the countryside.

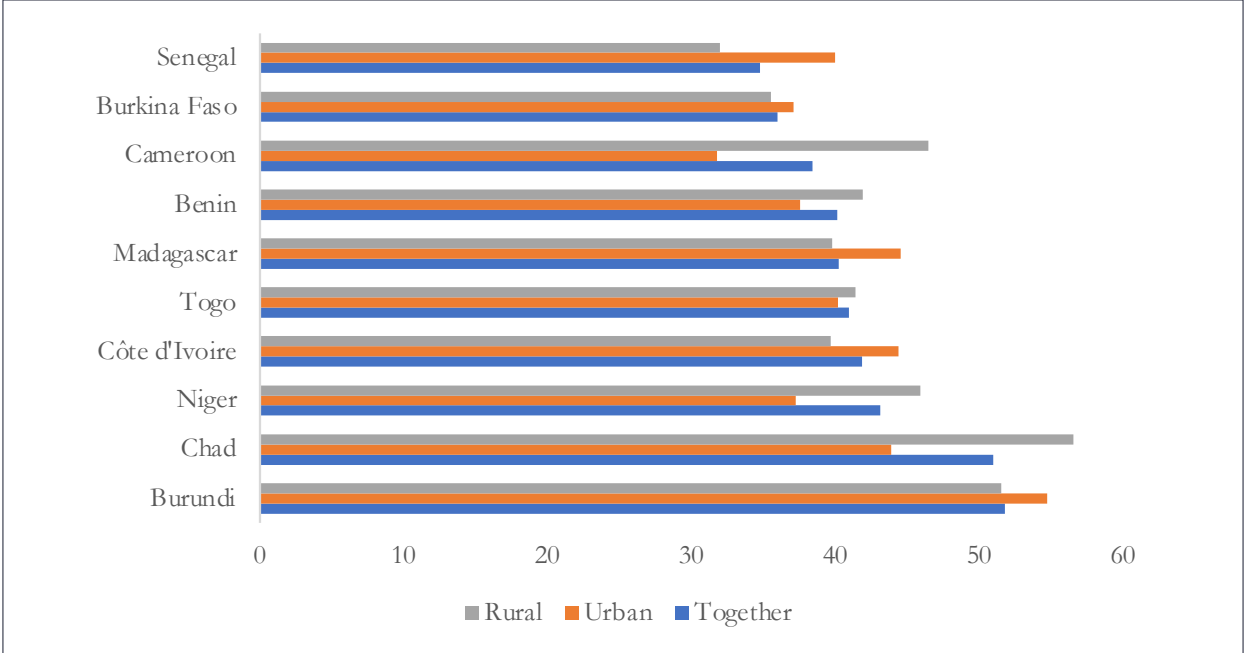
Figure 2: Pupils/qualified teacher ratio in urban and rural areas in 2022 (high ratio indicates shortage)



Source: Authors, based on routine data collected from educational systems of the countries in August-September 2023

As per the data summarized in Figure 3 below, the urban-rural differences in pupils/qualified teacher ratio somehow mirror the urban-rural gap in pupils/teacher ratio in Senegal, Burundi, Burkina Faso, Côte d'Ivoire, Cameroon, and Benin. Elsewhere, either the urban-rural gap in pupils/qualified teacher strongly reinforces the existing urban-rural gap in teachers' allocation, or the urban-rural gap benefits urban areas for one indicator and benefits rural areas for the other. Togo and Niger are in the first case with gaps in pupils/qualified teacher ratios that are 20 to 25 folds that of pupils/teacher ratio (gap in pupils/teacher ratio of 1.2 and 8.7 percentage points respectively, as compared to gaps in pupils/qualified teacher of 24.4 and 118.4 percentages). The second case is observed in Chad (a gap of 12.6 percentage points in pupils/teacher ratio to the benefit of urban schools versus a gap of 35.4 percentage points in pupils/qualified teacher to the benefit of rural schools), and in Madagascar (a gap of 4.8 percentage points in pupils/teacher ratio to the benefit of rural schools versus a gap of 118.4 percentage points in pupils/qualified teacher to the benefit of urban schools). In all cases (except in Senegal), the pupils/qualified teacher ratio is above the pupils/teacher ratio, highlighting again the shortage of qualified teachers even in countries where the pupils/teacher ratio is below or close to 40. Different strategies are therefore needed to address these two interrelated, but distinct, issues (teachers and qualified teachers' shortages).

Figure 3: Pupils/teacher ratio in urban and rural areas in 2022 (high ratio indicates shortage)



Source: Authors, based on routine data collected from educational systems of the countries in August-September 2023

3. Urban-rural differences in teachers' actual knowledge and skills



The teachers' knowledge and skills⁸ dimension of the PASEC2019 teacher survey consists of paper-and-pencil tests in multiple choice questions format in reading comprehension and mathematics, both in subject knowledge and teaching knowledge skills. The results of the assessment of knowledge and skills in reading comprehension point to a generally satisfactory level among the teachers surveyed. Overall, 52.0% of teachers have a score of 497 points or more, placing them at the (the highest) Level 3 of the PASEC2019 teachers' proficiency scale for reading comprehension.⁹ More than seven out of 10 teachers were at Level 3 in Côte d'Ivoire (87.8%), Senegal (81.9%), Benin (75.6%), Burkina Faso (75.5%), Togo (74.3%), Gabon (74.2%) and Cameroon

(72.3%), countries where teachers' scores are on average well above 497 (Table 1, Panel A). Moreover, no significant difference is observed in teachers' knowledge and skills in reading comprehension across urban and rural schools in these countries except in Cameroon, Togo, and Senegal. In Cameroon and Togo, teachers in urban areas performed significantly better in the assessment while the opposite is observed in Senegal. In all cases, the difference in score is between 20 and 25 points.

8 Percentages of teachers at (top) Level 3 of PASEC2019 teachers' proficiency scale used in this section are all from PASEC (2020).

9 "At this level, teachers are able to take a step back and engage in general processing of all types of texts. They make complex inferences and are able to combine and interpret multiple implicit ideas, drawing on their own experience and knowledge. They are capable of detaching themselves from the literal meaning of a text to identify the author's intention and perceive the humorous dimension of a text (even when this is subtle). They can take the content of a text into account to formulate a new idea that is relevant to the information they have read". PASEC (2020), pp.171. www.confemen.org

In the second group of countries, the average scores are below 497 points and the percentage of teachers at Level 3 is relatively lower: Madagascar (11.2%), DR Congo (16.3%), Chad (18.5%), Burundi (29.9%), Guinea (30.8%), Congo (36.7%), and Niger (42.7%). In addition, average scores of teachers are significantly higher in urban areas in all these countries but Guinea, with differences between 25.6 points in Niger and 47.5 points in Madagascar.

Teachers' scores in the reading comprehension teaching test in Panel B of Table 1 vary between 430.1 points in Congo and 578.9 points in Côte d'Ivoire. Scores are below 500 points (i.e., reflecting an insufficient level of teaching knowledge and skills to offer students proper support with the acquisition of knowledge and skills in reading comprehension) in Madagascar, DR Congo, Chad, Burundi, Guinea, Congo, and Niger; all countries that also have average scores below Level 3 for knowledge and skills in reading comprehension. No significant difference is noted in average scores between urban and rural areas. In the other half of the countries (Benin, Burkina Faso, Cameroon, Côte d'Ivoire, Gabon, Senegal, and Togo), teachers have a sufficient level of teaching knowledge and skills on average, as shown by scores all above 500 points. In Senegal, a significant difference is noted between urban and rural areas to the benefit of rural schools.

Table 1: Teachers' knowledge and skills in reading comprehension and in teaching reading comprehension

	<i>Panel A: Knowledge and skills in reading comprehension</i>				<i>Panel B: Knowledge and skills in teaching reading comprehension</i>			
	<i>Together</i>	<i>Urban</i>	<i>Rural</i>	<i>Difference</i>	<i>Together</i>	<i>Urban</i>	<i>Rural</i>	<i>Difference</i>
Benin	548.4	553.6	545.5	8.1	536.2	536.8	535.8	-1.0
Burkina Faso	550.4	546.9	555.0	-8.1	543.1	532.1	549.6	-17.5*
Burundi	461.5	485.0	455.6	29.4***	457.0	464.2	455.0	9.2
Cameroon	542.7	553.6	530.6	23.0***	539.4	543.6	532.6	11
Chad	420.8	447.5	406.0	41.5***	436.9	444.1	431.0	13,1
Congo	467.3	473.6	447.2	26.4***	430.1	428.1	431.9	-3,8
Côte d'Ivoire	589.3	587.2	591.7	-4.4	578.9	571.3	584.9	-13,5
Gabon	548.5	551.1	542.8	8.3	540.7	541.9	534.5	7,5
Guinea	449.7	453.0	445.4	7.6	460.4	459.6	459.4	0,2
Madagascar	407.3	445.0	397.5	47.5***	450.5	465.4	447.8	17,6**
Niger	484.5	501.4	475.8	25.6***	487.4	495.3	481.7	13,5**
DR Congo	420.9	436.7	407.8	28.8***	437.4	439.3	434.0	5,3
Senegal	561.8	549.4	570.8	-21.4***	572.5	542.0	594.7	-52,7***
Togo	546.8	558.3	538.2	20.1***	529.6	536.6	524.7	11,9*

Source: PASEC's computations based on PASEC2019 international learning assessment.

Note: *** = significant at 1%, ** = significant at 5%, * = significant at 10%

With only 3 out of 10 teachers (32.3%) reaching the (highest) Level 3 of the PASEC2019 teachers' proficiency scale for knowledge and skills (547 points or more)¹⁰, the results of the mathematics assessment are relatively unsatisfactory. At least 50% of teachers obtained 547 points or more in Benin (60.5%), Togo (54.2%), Côte d'Ivoire (52.6%) and Senegal (52.2%). The average scores in these countries are above 547 points but by a relatively tiny margin in Côte d'Ivoire (1.3 points above the threshold), Senegal (3.3 points) and Togo (9.1 points). Average scores in urban and rural areas are both above 547 points only in Benin and Togo, and significant differences are observed between teachers of urban and rural schools in Côte d'Ivoire (26.6 points) and Senegal (40.2 points); the latter outperforming the former.

In all other countries assessed, the average score is below 547 points and less than 45 out of 100 teachers are at Level 3 of the proficiency scale for knowledge and skills in mathematics: Chad (419.3 points; 5.4%), Congo (430.7 points; 6.8%), DR Congo (431.0 points; 6.7%), Guinea (437.0 points; 11.6%), Niger (484.0 points; 22.1%), Madagascar (485.3 points; 24.1%), Gabon (501.2 points; 29.9%), Cameroon (517.5 points; 37.0%), Burkina Faso (532.2 points; 44.7%) and Burundi (536.3 points; 43.7%). No significant difference is observed in teachers' knowledge and skills in mathematics across urban and rural areas in these countries except in Chad where teachers in urban schools outperform their counterparts in rural schools by 25.9 points.

10 "Teachers at this level demonstrate the ability to solve complex problems in several stages, requiring the use of reasoning based on an in-depth analysis of the situation and possibly involving manipulating unknowns (for example in unequal sharing problems). To solve most tasks at this level, cognitive alertness is needed to avoid common mistakes and misconceptions (e.g., thinking that area and perimeter vary in the same way). Expertise at this level also involves an in-depth understanding of the concepts (for example, understanding the relativity of the whole in connection with the concept of a fraction)". PASEC (2020), pp.177.

As shown in Panel B of Table 2, mathematics teaching test scores vary between 409 points in Guinea and 570.1 points in Togo. All four countries with an average score of 547 points or more for mathematics knowledge (Benin, Togo, Côte d'Ivoire, and Senegal) also scored above 500 points for mathematics teaching test scores, reflecting more than sufficient level of mathematics teaching knowledge and skills on average. Teachers at rural schools have significantly higher knowledge and skills in mathematics teaching than teachers at urban schools in Côte d'Ivoire (difference of 38.4 points) and Senegal (difference 25.9 points), in addition to having a better knowledge of the subject. Among the countries that scored below 547 points for mathematics knowledge, four countries (Burkina Faso, Cameroon, Gabon, and Niger) obtained average scores above 500 points for mathematics teaching test scores, suggesting that teachers combine (and might compensate) average knowledge of the subject with more than average skills in teaching it. In this second group of countries, teachers at rural schools obtained significantly higher scores than those at urban schools in Burkina Faso (27.8 points). Burundi, Congo, Guinea, Madagascar, DR Congo, and Chad constitute the third group of countries where teachers have less than Level 3 knowledge of mathematics together with an insufficient level of mathematics teaching knowledge and skills. It is noted that teachers at urban schools surpass teachers at rural schools in knowledge and skills in mathematics teaching in Burundi (30.9 points), Chad (50.0 points), and Congo (21.3 points) and somehow in Madagascar (35.7 points but significant at 5% and not at 1%).

Table 2: Teachers' knowledge of mathematics and mathematics teaching

	<i>Knowledge of mathematics</i>				<i>Knowledge of mathematics teaching</i>			
	<i>Together</i>	<i>Urban</i>	<i>Rural</i>	<i>Difference</i>	<i>Together</i>	<i>Urban</i>	<i>Rural</i>	<i>Difference</i>
Benin	571.1	560.7	576.9	-16.2**	551.7	549.0	553.2	-4.2
Burkina Faso	532.2	529.7	535.3	-5.6	558.3	542.0	569.1	-27.1***
Burundi	536.3	550.9	532.5	18.4**	493.9	518.7	487.8	30.9***
Cameroon	517.5	519.1	514.7	4.3	518.8	521.9	513.7	8.2
Chad	419.3	435.5	409.6	25.9***	438.1	468.6	418.6	50.0***
Congo	430.7	435.3	414.2	21.1**	442.8	449.2	427.9	21.3***
Côte d'Ivoire	548.3	533.1	559.7	-26.6***	533.4	510.9	549.2	-38.4***
Gabon	501.2	506.0	500.9	5.0	521.4	522.5	523.7	-1.2
Guinea	437.0	430.9	449.0	-18.1*	409.0	406.4	417.9	-11.5
Madagascar	485.3	498.8	481.4	17.4	479.9	507.9	472.2	35.7**
Niger	484.0	488.7	480.3	8.3	518.3	524.0	514.5	9.5*
DR Congo	431.0	441.7	422.1	19.5**	411.1	420.7	402.1	18.6*
Senegal	550.3	527.0	567.2	-40.2***	553.3	538.4	564.4	-25.9***
Togo	556.1	566.0	548.4	17.6**	570.1	577.7	564.8	13.0*

Source: PASEC's computations based on PASEC2019 international learning assessment.

Note: *** = significant at 1%, ** = significant at 5%, * = significant at 10%.

4. Conclusion



The available data on the proportion of qualified teachers suggests that countries with relatively high proportion of qualified teachers also tend to better deploy qualified teachers across urban and rural schools, resulting into lesser inequalities between children in primary school in terms of being taught by a teacher who meet the minimum national requirements to be considered qualified. Conversely, in countries with limited number of qualified teachers (in percentage), qualified teachers are disproportionately posted in urban schools. This latter situation often reinforces existing urban-rural differences in pupils/teacher ratio, which means that rural students not only suffer an additional burden of insufficient number of teachers compared to their urban counterparts, but they are also likely further penalized regarding education quality.

The PASEC2019's teachers survey reveals a somewhat similar pattern: in countries where teachers have a relatively low level of knowledge and teaching competences on average, teachers at urban schools tend to have higher knowledge and skills (Burundi, Chad, Congo, Madagascar, Niger, DR Congo); whereas rural schools' teachers tend to outperform teachers in urban schools in countries where teachers have higher level of knowledge and teaching competences (Senegal, Côte d'Ivoire and to a lesser extent Burkina Faso). In some cases, the urban-rural gap in teachers allocation benefits urban students for the pupils/teacher ratio and benefits rural areas for the pupils/qualified teacher ratio, or vice-versa.

However, the amplitudes of the gaps are often too large to be suggestive of a compensatory strategy whereby teachers' quality would substitute for their quantity in the respective areas. In any case, the rural-urban allocation of teachers (qualified or not) is largely the outcome of countries' public sector¹¹ deployment and transfer strategy for primary education teachers. When based on criteria other than teacher's merit and system rationalization, teachers' transfers are likely subject to rent-seeking and patronage practices, leading to situations whereby teachers invest their time and energy in moving out or staying in a preferred location, contributing to reinforcing existing hierarchies in schools and education inequalities (Ramachandran et al., 2017).

Overall, this policy brief further confirms the need to:

- (i) rethink the deployment and transfer strategies so to equitably allocate qualified teachers (International Task Force on Teachers for Education 2030, 2021);
- (ii) tackle the challenge of recruiting and retaining qualified teachers in remote and rural areas (Mafora, 2013; du Plessis and Mestry, 2019).

One possible solution but certainly not a panacea to achieve an optimal and equitable allocation of teachers – in the sense of maximizing students learning and minimizing education inequalities– is to design data-driven and Information and Communication Technology-based allocation mechanisms that are efficient and individually rational both for teachers and schools (Combe et al., 2022). In connection with this, the undergoing research project of the authors of this research brief exploits machine learning techniques to test different teachers' allocation scenarios and their impact on the distribution of students' learning outcomes. Furthermore, case studies should be undertaken on Senegal, Côte d'Ivoire, Burkina Faso, and Benin (which have a relatively balanced allocation of qualified teachers) to identify good practices and lessons that can be documented and potentially adapted in countries where the urban-rural divide is important.

Moreover, the specific situations of Burundi, Chad, Congo, Madagascar, Niger, and DR Congo reflect pressing needs for educational reforms to ensure that all students have access to quality education, regardless of their geographic location. In this respect, targeted and relatively easy to implement professional development programs, such as offline digital training-of-trainer and mentorship platform for education with a focus on rural teachers, may be convenient solutions to start with.

11 Public schools represent more than 70% of the number of school places in the education systems (PASEC, 2020).

References

Akyeampong, K., & Lewin, K. M. (2002). From student teachers to newly qualified teachers in Ghana: Insights into becoming a teacher. *International Journal of Educational Development*, 22(3-4), 339-352.

Combe, J., Tercieux, O., & Terrier, C. (2022). The design of teacher assignment: Theory and evidence. *The Review of Economic Studies*, 89(6), 3154-3222.

Du Plessis, P., & Mestry, R. (2019). Teachers for rural schools—a challenge for South Africa. *South African Journal of Education*, 39.

International Task Force on Teachers for Education 2030 (2021). *Closing the gap Ensuring there are enough qualified and supported teachers*, 2021. Paris: UNESCO.

Mafora, P. (2013). Managing teacher retention in a rural school district in South Africa. *The Australian Educational Researcher*, 40, 227-240.

Mulkeen, A. (2005). Teachers for rural schools: A challenge for Africa. Rome, FAO.

PASEC (2020). PASEC2019 : *Qualité des systèmes éducatifs en Afrique subsaharienne francophone*. Dakar, CONFEMEN.

Ramachandran, V., Béteille, T., Linden, T. Dey, S., & Chatterjee, P. G. (2017). *Getting the right teachers into the right schools: managing India's teacher workforce*. World Bank Publications.

Towse, P., Kent, D., Osaki, F., & Kirua, N. (2002). Non-graduate teacher recruitment and retention: some factors affecting teacher effectiveness in Tanzania. *Teaching and teacher education*, 18(6), 637-652.



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