EdTech Hub

Clear evidence, better decisions, more learning.

Factors Related to Teacher Absenteeism in Sierra Leone

Literature review

Date June 2023

Author Alejandra Vijil
Chris McBurnie
Katie Godwin
Amy Bellinger

DOI 10.53832/edtechhub.0170

UKaid from the British people

THE WORLD BANK

unicef for every child

About this document

Recommended citation

Vijil, A., McBurnie, C., Bellinger, A., Godwin, K., & Haßler, B. (2023). *Factors Related to Teacher Absenteeism in Sierra Leone: Literature review* (No. 2). EdTech Hub. https://doi.org/10.53832/edtechhub.0170. Available from https://docs.edtechhub.org/lib/MS3CKE8G. Available under Creative Commons Attribution 4.0 International.

Reviewers

Björn Haßler

About EdTech Hub

EdTech Hub is a global research partnership. Our goal is to empower people by giving them the evidence they need to make decisions about technology in education. Our evidence library is a repository of our latest research, findings and wider literature on EdTech. As a global partnership, we seek to make our evidence available and accessible to those who are looking for EdTech solutions worldwide.

EdTech Hub is supported by UKAid, Bill & Melinda Gates Foundation, World Bank, and UNICEF. The views in this document do not necessarily reflect the views of these organisations.

To find out more about us, go to edtechhub.org/. Our evidence library can be found at docs.edtechhub.org/lib/.

Contents

Background to the research project

This report is one of several (see Table 1 below) on the research project on the *Impact of GIS-Supported Teacher Allocation in Sierra Leone (Hub-Led Research Programme 3)*.

The education workforce is the most important school-level determinant of student learning (↑Education Commission, 2019). In Sierra Leone the pupil-to-qualified-teacher ratio rises from 44:1 for schools in urban centres to 76:1 for schools in rural areas (↑Mackintosh et al., 2020b). Meanwhile, an average of a quarter of the workforce is absent from school on any given day. Even though the Teaching Service Commission (TSC) has created new protocols for teacher deployment, these reforms have not achieved the intended results.

In this context, the TSC is exploring new options — including an innovative teacher preference matching model — to harness geospatial data to strengthen workforce allocation. EdTech Hub and research partners Fab Inc and the Education Commission are undertaking a Hub-Led research (HLR) study to support the TSC to build evidence on the most feasible approach to GIS-supported teacher allocation in Sierra Leone. Using a mixed-methods study, we are assessing the impact of this approach on teacher attendance and retention.

This HLR seeks to understand whether improving teacher allocation using GIS data can increase job uptake, decrease teacher absenteeism, and improve teacher retention.

This informal literature review provides a summary of the most recent literature on teacher absenteeism, covering a wide range of low- and middle-income countries, including Sierra Leone, where the larger study is being undertaken. For the purposes of this review, we have focused on lessons learnt from sub-Saharan African studies that share similar education contexts and challenges as Sierra Leone. Based on the review, we hypothesise that distance from a teacher's home to their school and their ability to choose which school they would like to work in impact teacher motivation, school attendance, and time on task. Efficient teacher allocation could improve each of these outcome estimates.

Following this literature review, we conducted a series of qualitative and quantitative research based on the findings. In February 2022, we explored teachers' school choice preferences and what matters most for teacher deployment in Sierra Leone through qualitative research (the report can

be found here, and a related blog post here).[1] Between October and December 2022, we also looked at teacher movements and retention rates through a quantitative study. The findings from the quantitative study can be found here, and the summarising blog post here. Based on these two studies, we looked at the 'hot spots' and 'cold spots' for teacher retention to investigate what motivates teachers to stay at or leave a school. This was done through intensive qualitative fieldwork and analysis in two districts in Sierra Leone in March 2023.

Table 1 below summarises our study's research activities and outputs.

Table 1. *Timeline of HL3 research activities and outputs*

Date	Phase	Activities
2021	Proposal	EdTech Hub, Fab Inc and Education Commission worked on a technical proposal to present to the Teaching Service Commission (TSC) on supporting teacher allocation using GIS and a preference matching model. 🔖 **Key output:** *Literature review* (↑Vijil et al. — *this paper*)
2022	Kick-off	Worked with the TSC to further scope the research and understand what the TSC needed to know to improve teacher allocation. 🔖 **Key output:** *The impact of GIS-supported teacher allocation in Sierra Leone (Inception Report, unpublished) 2022*
February 2022	Qualitative fieldwork	Undertook semi-structured interviews and focus group discussions with teachers and school leaders in two districts to explore teacher preferences. 🔖 **Key outputs:** *Using technology to improve the equity of teacher allocation in Sierra Leone: the challenge and a way forward (Blog post on qualitative work) May 2022*

[1] https://edtechhub.org/2022/05/06/using-technology-to-improve-the-equity-of-teacher-allocation-in-sierra-leone-the-challenge-and-a-way-forward/ Retrieved 21 March 2023

		What Matters Most for Teacher Deployment? A Case Study on Teacher School Choice Preferences in Sierra Leone (↑McBurnie et al., 2022*:* Report on qualitative fieldwork)
Oct–Dec 2022	Quantitative analysis	Quantitative analysis was carried out nationally to analyse movement and retention of payroll teachers from 2015 to 2021. 🔖 **Key output:** *School-to-school mobility patterns and retention rates of payroll teachers in Sierra Leone: Report from quantitative analysis*
March 2023	Qualitative fieldwork	Semi-structured interviews and focus group discussions with teachers and school leaders to explore reasons for high and low retention in areas identified by quantitative analysis. 🔖 **Key output [upcoming]:** Understanding teacher retention and mobility in Sierra Leone: why do teachers leave or stay at their schools?

Our research partners on this study, the Education Commission and Fab Inc, have done extensive work on education data consolidation and the development of options for teaching workforce reforms in Sierra Leone through the Education Workforce Initiative (EWI).

To align with this research project, EdTech Hub has worked with Fab Inc and the TSC, through its country engagement work, to create an open-source, flexible algorithm for the teacher deployment exercise, to make the process easier and quicker. Using this integrated approach of research and technical assistance, we continue to engage with the TSC to support their efforts in improving the teacher deployment exercise. As part of this work, we engaged with stakeholders in both the TSC and the Ministry of Basic and Senior Secondary Education (MBSSE). We wanted to understand what has and has not worked well with regard to teacher deployment and, going forward, how stakeholders believe teacher deployment can be improved. You can find this paper here.

1. Introduction

Our informal review builds on the most recent literature review on teacher absenteeism that we are aware of. It covers studies from a large range of low- and middle-income countries like Bangladesh, Ecuador, India, Indonesia, Lao People's Democratic Republic, Malawi, Nicaragua, Nigeria, Pakistan, Peru, Tanzania, Uganda, Sierra Leone, and Zambia. For the purposes of our review, we have extracted the lessons from sub-Saharan African studies that shared similar education contexts and challenges.

This review constitutes a preparatory piece of work for a forthcoming larger study. The literature review focuses on Sierra Leone, where the larger study will be undertaken. For further information about the larger study, please refer to our outputs register (↑Haßler et al., 2022)

Sierra Leone has taken significant measures to promote education. The government's initiatives have resulted in important advances in educational access (↑World Bank, 2021); however, access does not equal quality. Despite advances, many school-aged children struggle to achieve basic milestones for their age groups. For instance, from the age of four to eighteen, a student goes through 9.6 years of education, but in Sierra Leone, these years equate to just 4.9 years of learning (↑World Bank, 2021). This means that half of the time invested in school in Sierra Leone is not contributing towards learning; this is potentially related to teacher absenteeism.

Teacher absenteeism rates in Sierra Leone are high. For this paper, teacher absenteeism should be understood as a teacher's absence from their school. Other studies also consider time on task, unpunctuality, or teachers' presence in school but not in the classroom. However, given the monitoring limitations in this context, we focus on teachers' presence in schools.

The most recent data suggests that in Sierra Leone, over 20% of teachers are absent from school on any given day (↑World Bank, 2021). According to literature from sub-Saharan countries, the main issues behind teacher absenteeism are related to school locations, health, school conditions, teachers' salaries, and school management. However, other factors like poverty and gender seem to be part of these issues too. We hypothesise that taking into consideration teachers' preferences when choosing a school could help reduce absenteeism. Teachers' personal reasons for wanting to work in a particular school might lead them to prioritise a

school closer to a health facility, one near their partner or family members, or one that offers childcare, more training opportunities or smaller classes, even if such schools are located in a remote area. Understanding teachers' reasons for being absent from school or for opting for one school over another might inform effective teacher deployment strategies, which, in turn, could lead to more teacher time in the classroom.

2. Factors associated with teacher absenteeism and allocation challenges

This section details the factors found in literature from sub-Saharan Africa and Sierra Leone about teacher absenteeism and difficulties associated with teacher allocation to remote schools.

2.1. Location

School location seems to be the most relevant factor in both teacher absenteeism and teacher allocation. A few of the elements associated with location refer to accessibility, school distance to healthcare and financial facilities, and housing availability. But location is also closely related to school conditions. There is a significant difference between schools located less than 5 km away from an urban centre and those located further away. For instance, more remote schools have a higher proportion of students per qualified teacher, female teachers, and lower student performance (↑Sierra Leone: Mackintosh et al., 2020c), and they tend to have fewer facilities or poorer infrastructure (↑Niger: Cummings, 2016; ↑Malawi: Kadzamira, 2006; ↑LMICs: Lee et al., 2015).

Furthermore, remoteness should be understood more broadly than just a categorisation of districts within Sierra Leone or proximity to the capital, Freetown. Remoteness should be analysed within districts by measuring the distance to urban centres, walking distances to schools (not just linear distances but also considering topographical barriers), accessibility during the rainy season, and amenities. For a more complete definition of remoteness, see ↑Sierra Leone: Mackintosh et al. (2020c). However, the current definition of remoteness does not entirely explain the challenges of allocating teachers to schools in remote areas. Other aspects, like safety when walking to school, should be considered in addition to distance.

2.1.1. Teachers' preferences regarding location

In terms of teacher deployment, teaching in remote schools in Sierra Leone presents a series of challenges, making them less attractive for teachers applying for jobs in schools.

Studies from Latin America and the USA show that location is at the top of teachers' preference ranking when choosing a school. In these studies, teachers considered the schools closer to their hometown, previous job, or

their teacher training programme more attractive (↑Peru: Bertoni et al., 2019).

However, location is also closely related to working conditions and student characteristics, which also affect teacher preferences. For instance, teachers tend to prefer schools with better school conditions, higher-achieving students, and those from families with higher socioeconomic levels (↑Peru: Bertoni et al., 2019). School conditions are explored further in Section 2.3.

Even though location seems to be a common preference factor for all teachers, for female teachers in particular, it is related to proximity to family or partners and safety. Family-friendly policies relating to teacher allocation involve allowing teachers to relocate to be near their partners or families, or to indicate their preference for doing so during a job application. For instance, in Malawi, female teachers' requests to relocate to be near their partners cannot be denied (↑LMICs: UNESCO-IIEP, 2021). This measure could also help solve the safety issue raised by female teachers allocated to remote areas (↑Ghana: Hedges, 2002; ↑LMICs: UNESCO-IIEP, 2021).

Gender-sensitive policies should therefore include a companionship programme so teachers feel safer, work with or near their partners or with a same-gender colleague. Similar practices to ensure female teacher attendance and retention are focused on ensuring childcare (↑LMICs: UNESCO-IIEP, 2021), which could be more challenging in remote areas. Currently, 70% of teachers in Sierra Leone are male (↑Sierra Leone: World Bank, 2021). Hiring more female teachers would help improve the student-teacher ratio, especially in remote areas experiencing a scarcity of teachers. It might also encourage young girls to stay in school (↑Sierra Leone: World Bank, 2021).

Furthermore, working in remote schools often means living far away from educational institutions that can support continued study or opportunities to gain further certifications (↑Niger: Cummings, 2016). The distance from such opportunities for further study could represent an obstacle to teachers' career development and keep them in the lowest-paying jobs in schools.

2.1.2. Location as the main factor for teacher absenteeism

Teachers who are local to a school area tend to be less absent than teachers who are not local to a school (↑LMICs: Lee et al. 2015). However, local capacity does not always match the demand of the schools in a given

area. Teachers are often motivated to migrate to cities to seek better working conditions, the possibility of further study, finding a second job or easier access to healthcare facilities. A new teacher allocation system should consider the advantages of sourcing local teachers while also balancing the needs of the education system; or when this is not possible, trying to match teachers to the most appropriate school based on their preferences.

For teachers who do not live in the school area, the distance to school appears to be the dominant factor affecting absenteeism. The issue of distance to school appears to apply especially to teachers in urban areas, where traffic connections significantly influence the time it takes to travel to school (↑LMICs: Lee et al. 2015). Recently published research confirms this (↑Mozambique: Nugroho & Karamperidou, 2021). In urban areas of Mozambique, teachers report transportation constraints as the main reason for missing school or arriving late. However, the problem appears to have been solved for remote schools where housing is provided (↑Mozambique: Nugroho & Karamperidou, 2021). Nonetheless, housing availability and adequate conditions are not always ensured, making teachers less likely to apply for a position in a remote school (↑Malawi: Kadzamira, 2006; ↑LMICs: UNESCO-IIEP, 2021). However, even if the Sierra Leone Government were to implement such a solution or consider other incentives to promote remote allocation, they would not be accessible to teachers who are not on the government payroll, even though they are teaching and playing a valuable role in remote schools (for more information about volunteer teachers see Section 2.4.).

Even when housing in remote areas is provided, other conditions like proximity to partners' or relatives' jobs (↑LMICs: UNESCO-IIEP, 2021), higher education institutions for further study (↑Niger: Cummings, 2016), health facilities (↑LMICs: Lee et al., 2015), and other job opportunities (↑Niger: Cummings, 2016) are relevant factors for teacher absenteeism.

Location also seems to be related to absenteeism because it can hinder supervision. For instance, in Nigeria, the difference in absentee rates between urban and rural schools was attributed to "more regular school supervision and higher visibility of inspectors in urban locations" (↑LMICs: Lee et al., 2015). This suggests that improving monitoring systems or including other stakeholders in monitoring could increase teachers' attendance rates, albeit only in particular conditions. For example, in ↑Mozambique: Nugroho & Karamperidou, 2021, caretakers and parents with higher education levels or literacy skills were more effective in monitoring

if their children were not only attending school, but also if their teachers were. This included monitoring the quality of classroom activities as well as homework assignments. In remote or rural areas where poverty rates are higher, parents and caretakers are more likely to have lower levels of literacy and therefore feel less able to participate in their children's schooling or monitoring, including the monitoring of teachers.

Finally, teachers are less likely to take a post in a remote school or regularly attend a remote school because of a lack of proximity to healthcare facilities or infrastructure. These issues cut across the factor of location and health and are discussed in the next section.

2.2. Health

Health is another broad factor influencing teacher absenteeism and allocation. Whether it is the school's proximity to healthcare facilities, the teachers' health or their responsibilities for caring for others, health is a major reason cited by teachers when justifying their absence from school (↑LMICs: Lee et al., 2015; ↑Mozambique: Nugroho & Karamperidou, 2021).

2.2.1. Access to healthcare facilities

The lack of proximity to healthcare facilities and other basic needs like clean water has an impact on teachers' attendance. It is an important cause of teachers opting for city schools rather than remote or rural schools (↑LMICs: Lee et al., 2015). There is a high prevalence of chronic diseases such as HIV/AIDS or acute diseases like Malaria in sub-Saharan countries. This represents a significant reason for being absent from teaching or for teachers basing their decisions about school location on proximity to a healthcare centre (Mics: Lee et al. In Sierra Leone, 1 in 1,000 people has HIV/AIDS (↑World Bank, 2020). And particularly, where the population is at risk, 320 people per every 1,000 contract Malaria — this is 100 cases more than the average for all sub-Saharan countries (↑World Bank, 2018).

2.2.2. Teachers' health and well-being

Illnesses as a consequence of malnutrition, lack of clean water, and poor sanitation — particularly acute issues for those with low incomes — are further reasons for teacher absence (↑LMICs: Lee et al., 2015). Teachers who are not on the official payroll are particularly at risk of poor health because of their low, unreliable, and sometimes non-existent salaries (↑Sierra Leone: Turrent, 2012).

2.2.3. Teachers' care responsibilities

Teachers might also be absent because of their care responsibilities. This is especially true for women. Traditionally, women have been assigned the role of caring for the elderly, children, and sick relatives, and this can affect their attendance as well as the time they have available for extra training, studying, and lesson planning. With few opportunities for professional development, female teachers are more likely to leave the profession (↑LMICs: Lee et al., 2015). These imbalances reinforce the need to create gender-sensitive policies to ensure teachers' attendance, and they are closely related to the above-mentioned issue of location. A more comprehensive allocation system that prioritises deploying teachers with families to schools near their families could help decrease female teacher absenteeism.

2.3. School conditions

School infrastructure and the availability of teaching and learning materials are two additional factors related to teacher absenteeism and allocation preferences. Several studies (↑Niger: Cummings, 2016; ↑Malawi: Kadzamira, 2006; ↑LMICs: Lee et al., 2015) show that school infrastructure, that is, having proper (non-dirt) floors, electricity, running water, toilets, covered classrooms, and a library, among other things, affect teacher absenteeism rates. In ↑Lee et al.'s (2015) study, six of the countries researched were able to link poorer infrastructure to higher rates of absenteeism.

Special attention should be paid to having proper WASH facilities (water, sanitation, and hygiene) to retain female teachers in schools and support their allocation in remote areas.↑LMICs: UNESCO-IIEP (2021) clearly states that gender-responsive WASH facilities are of the 'utmost importance'. Inadequate infrastructure in schools could also increase absenteeism by impacting teachers' health (↑LMICs: Lee et al., 2015). For instance, this could be the case with water quality and availability or exposure to weather because of structural damages in the school.

In a 2021 study in Mozambique, teachers in remote, rural schools reported that the lack of teaching and learning materials affected their attendance and their teaching time while in the classroom (↑LMICs: UNESCO-IIEP, 2021).

2.4. Salary

The irregularities surrounding teachers' salaries in Sierra Leone make teaching an unappealing and undervalued career (↑Sierra Leone: Turrent, 2012). Even though salaries for qualified teachers are comparable with other professions in the country, the majority of teachers cannot access this wage (↑World Bank, 2021). Most schools in all levels of formal education in Sierra Leone are owned by religious groups, private entities, or communities (in that order). The government only directly manages 15% of schools but financially supports 45% of all schools (↑Sierra Leone: World Bank, 2021). However, the financial support might only be partial. As a result, more than 30% of teachers are volunteers (↑SierraLeone: World Bank, 2021) or earn as little as USD 10 per month (↑SSA: Bennell & Akyeampong, 2007), perpetuating poor living conditions.

↑ Bennell & Akyeampong's (2007) study found that half of the teachers in their survey reported teaching while hungry. The teachers were asked to rate their agreement to the statement, 'Teachers at this school come to work hungry.' In both rural and urban schools of Sierra Leone, 100% of the participants agreed with the statement.

Although the situation might have improved in recent years, the low, late, and irregular wages force teachers to find a second job to provide for themselves and their families. Therefore, proximity to other sources of income is a strong reason to opt for an urban school or to be absent from school duties (↑Niger: Cummings, 2016) and is another factor leading to low retention rates (↑LMICs: Lee et al., 2015).

A 2021 study by ↑Senou in Benin clearly states that 'the reasons for absenteeism are mostly related to low purchasing power'. Teachers simply cannot live on their teaching salary alone (↑LMICs: Lee et al., 2015). Even though compensation for the few certified, officially enrolled teachers is comparable with that of similar public-sector jobs, teachers do not have access to the same benefits, such as housing, training, and childcare (↑Sierra Leone: Turrent, 2012). However, when compared to the private and informal sectors, other available jobs requiring similar skills are often better paid than teachers (↑LMICs: UNESCO-IIEP, 2021). It is inevitable, then, that teachers prioritise their second jobs, which ensure better income. A large proportion of the teacher workforce engages in supplementary work; rural teachers are more likely to be involved in farming, and urban teachers in private tutoring (↑Sierra Leone: Turrent, 2012).

There is an urgent need to include more teachers in the growing educational system and, specifically, to allocate them to the most remote schools. However, low and constantly late salary payments represent an obstacle to teacher retention, allocation, and attendance (↑Sierra Leone: Turrent, 2012).

Even when paid on time, teachers face another challenge: collecting their salaries. Sierra Leone has the lowest proportion of ATMs out of all the countries and economies studied by the ↑World Bank (2012), providing only 0.36 ATMs per 100,000 adults. The lack of ATMs in Sierra Leone forces teachers to collect their salaries from other financial institutions available only during working hours, therefore increasing teacher absenteeism. Teachers from remote areas need to invest hours or even a whole school day to travel to the nearest financial facility. On the other hand, teachers working and living in well-connected urban areas may have greater access to the few ATMs available, accessing them after school hours. In any case, for teachers from urban or rural areas, accessing salaries represents a challenge for which it is worthwhile being absent from school (↑Mozambique: Nugroho & Karamperidou, 2021).

Late salary payments are common in Sierra Leone, and the problem is worse for teachers working far away from the Freetown area. The further away teachers are working from the capital, the later the payment arrives (↑Sierra Leone: Turrent, 2012). This issue keeps teachers demotivated, promotes absenteeism (to find other sources of income), and prevents teachers from working in remote schools where they are most needed.

Financial data suggests that the Ministry of Finance does not have the means to cover all teachers' salaries; this is particularly true when 'ghost' teachers and non-existent schools are still on the payroll (↑Sierra Leone: Turrent, 2012). Other institutions or community organisations tend to provide compensation for teachers while they wait for their formal incorporation into the educational system. New teachers typically work for a year or more before being hired by the government, and it takes time for their promotions to be reflected in their remuneration (↑Sierra Leone: Turrent, 2012). Many instructors leave after four years of employment because of chronic salary delays or non-payment (↑Sierra Leone: Turrent, 2012).

Due to recurrent late payment of salary, insufficient compensation, and lack of transparency in recruiting practices, teacher morale and motivation are low, affecting their attendance.

2.5. School management

School management is a broad category that includes promotion criteria and career development opportunities, workload, and school leadership. School management conditions are different in each school, with remote schools more likely to have more students per teacher, multi-grade classrooms, and, therefore, heavier workloads. This impacts teachers' attendance in school and teachers' preferences for allocation, with teachers opting for schools with better working conditions.

2.5.1. Promotion criteria and career development

Beyond increasing teachers' salaries and ensuring they are paid on time, other actions that seem to have a positive effect on teacher motivation, attendance, and retention are clear and transparent promotion criteria (↑Malawi: Kadzamira, 2006). Teachers in Kadzamira's 2006 study in Malawi stated that having a meaningful career path where their training, experience, and performance are recognised might help them feel more motivated (↑Malawi: Kadzamira, 2006).

Training is seen by teachers as an opportunity to increase their salary and, therefore, it could also increase their motivation and attendance at work. However, rural teachers are less likely to participate in training sessions or attend university-level education than urban teachers, perpetuating the inequity in teaching quality and purchasing power between urban and rural areas (↑LMICs: UNESCO-IIEP, 2021).

On the other hand, although authorities consider that providing training opportunities to teachers could increase motivation, punctuality, and attendance, teachers reported having issues managing time between working and studying (↑Mozambique: Nugroho & Karamperidou, 2021). In Nugroho & Karamperidou's (2021) study in Mozambique, teachers reported that the extra burden represented by studying affected their focus while teaching and could also increase absences in school (↑LMICs: UNESCO-IIEP, 2021).

Particular attention should be paid to the reduced professional advancement opportunities for women. Data on different levels of education of female teachers show that as education levels rise, the proportion of female teachers decreases; this could be related to a lack of access to training. Women make up 85% of pre-primary instructors but only 30%, 16%, and 9% of all teachers in primary, junior high, and senior secondary schools, respectively (↑World Bank, 2021). Ensuring female

teachers have access to training could support their progression to higher levels of education.

Women's difficulties in accessing training and qualification services could be related to their domestic and caring responsibilities. Caring for the house and others represents a burden for women, leaving them with little time for training. Stereotypes and biases present in school administrations and the overall education system limit female teachers' potential (↑LMICs: Lee et al., 2015) and could decrease their motivation to teach or continue in the profession.

2.5.2. Workload

When considering school allocation, teachers seem to prefer urban schools because of the workload, among other reasons mentioned above. Studies indicate that remote schools have larger classes, fewer teachers, teachers managing multiple subjects and grades simultaneously, and more instructional time (↑Malawi: Kadzamira, 2006). However, this data should be considered with caution. In some cases, for instance, the Western Area data (Freetown and surroundings) has a significantly higher number of private schools, which are also considered when analysing the teacher-student ratio (↑Sierra Leone: Mackintosh et al., 2020a).

2.5.3. School leadership

School leadership also plays an important role in reducing teacher absenteeism. A UNICEF study from Eastern and Southern Africa shows that teachers who believe that their supervisors or headteachers encourage attendance spend more time on task. Moreover, these teachers are seven percentage points more likely to be in school than those who do not believe the same about their supervisors (↑SSA: Karamperidou et al., 2020). Beyond monitoring, supervisors' leadership and relationship with teachers also indirectly impact absenteeism. Teachers who reported that their inspectors and supervisors motivated staff had lower levels of absenteeism than teachers who disagreed with that statement (↑SSA: Karamperidou et al., 2020).

However, monitoring, mentoring, or motivating teachers cannot happen if head teachers, coordinators, supervisors, or inspectors are also absent from the school. UNICEF reports frequent head teacher absences, particularly in remote areas, and this negatively affects teacher attendance and instructional time (↑SSA: Karamperidou et al., 2020).

3. Measures to decrease teacher absenteeism

Given Sierra Leone's complex education context and the scope of this project, factors related to teacher absenteeism, such as salary, will not be addressed. Instead, specific alternatives and successful experiences related to allocation and monitoring will be explored to reduce absenteeism.

3.1. Improving the allocation system

A more comprehensive teacher allocation system that considers teachers' preferences could help improve teacher motivation and decrease absenteeism, while facilitating a fairer distribution of capacities throughout the country.

As stated above, location should be understood as a more complex variable than just school location. Other aspects, such as proximity to healthcare and financial facilities, transportation, housing availability, and the possibility of relocating to be near a partner or relatives, should also be considered.

The equitable distribution of teachers by school requirements can be facilitated by carefully planning and tracking teacher allocation. To make informed judgments that benefit the system, it is also critical to have up-to-date information about school requirements and characteristics and clear and transparent policies free of political motives. However, while teacher preferences should be considered in deployment systems, there is also a need to place teachers in less popular locations where teacher shortages frequently arise (↑LMICs: UNESCO-IIEP, 2021).

3.1.1. Challenges with the current allocation system

Even though the current deployment system in Sierra Leone considers location during application (↑Sierra Leone: Mackintosh et al., 2020a), other factors related to school conditions (e.g., infrastructure or teaching materials) could provide a more complete picture to help teachers with their decision-making. Giving teachers a fuller picture could help decrease absenteeism and promote teacher allocation in remote areas.

Currently, novice teachers are asked to apply for the most remote schools. After five years, teachers can apply for a promotion or request relocation to a less remote school (↑Mackintosh et al., 2020; ↑Teaching Service

Commission, 2020). This system means that remote schools might mostly have teachers with little experience and low performance levels or qualifications — potentially in addition to low motivation.

3.1.2. Systems that work

Sierra Leone's preference matching algorithm for the health sector (↑Mackintosh et al., 2020a) has had substantial success by balancing the preferences of both health workers and hospitals to guarantee that hospital demands are addressed while health workers' desires are also met. It has helped reduce attrition and the need for incentives (↑Mackintosh et al., 2020a).

A model inspired by the successful system in the health sector has also proven to outperform random allocation. A study developed by the Education Commission and Fab Inc incorporated data from the school and national census to develop an illustrative model. Purposefully allocating teachers to specific schools has proven to increase 'the average qualifications [and] experience and promote gender balance in the workforce' (↑Mackintosh et al., 2020a).

3.1.3. Teacher absenteeism and allocation

Other factors associated with teacher absenteeism that could be included in the allocation system are those relating to school infrastructure and management. Including gender-responsive measures, such as ensuring female teachers are deployed in pairs or near their partners and family members, providing information about the conditions of WASH facilities in schools, and making childcare available could promote female participation. ↑Mackintosh et al. (2020a) have suggested allocating female teachers first to ensure they are not simply assigned to the most remote schools (far away from the teachers' children or childcare alternatives) or schools without WASH facilities.

With adequate information from the schools, the factors listed above could be incorporated into the allocation systems to help teachers make informed decisions. Applications for teacher allocation should include questions about these factors and ask teachers to rate them in accordance with their priorities, with the intention of prioritising the needs of female teachers. Measuring the impact of this on teacher absenteeism should be explored.

3.2. Monitoring

The value of efficient supervision and monitoring in minimising teacher absenteeism has been demonstrated in several studies (↑LMICs: Guerrero et al., 2012; ↑Mozambique: Nugroho & Karamperidou, 2021; ↑LMICs: UNESCO-IIEP, 2021). School inspector and academic advisor visits seem to positively affect teacher attendance and time on task (↑Mozambique: Nugroho & Karamperidou, 2021).

However, visits are less frequent in remote schools because of the costs associated with travel (↑LMICs: Lee et al., 2015). Relying on head teachers is not a viable option either. In six out of every ten schools in Sierra Leone that receive performance-based funding, head teachers do not conduct classroom observations (↑World Bank, 2021). Alternative strategies to improve school supervision and monitoring are crucial to lowering teacher absence rates.

Two possible solutions have been identified in this context:

1. Community-based monitoring plans
2. Technology-based monitoring.

While implementing these solutions may be challenging due to low parental educational levels and involvement and a limited budget for device procurement, among other factors, there have been successful implementations of these strategies in other contexts that could provide valuable lessons for Sierra Leone.

3.2.1. Community-based monitoring

Teacher attendance may increase with the help of community and school leadership monitoring. When regular school supervision from inspectors is not possible, parents and caretakers can play an important role, for instance, by parents creating monitoring committees or simply having parents report frequent or prolonged teacher absenteeism to the school administration. However, parents with poorer educational backgrounds are less likely to feel able to participate in this way (↑Mozambique: Nugroho & Karamperidou, 2021). Other factors that impact the effectiveness of monitoring systems to reduce teacher absenteeism are ethnicity, age, gender, language, income, and work (↑Ghana: Donkor & Waek, 2018), all of which could be related to location.

Evidence from studies in Central America (↑Guerrero et al., 2012), Papua New Guinea (↑Suryahadi et al., 2013), and Uganda (↑Wilke et al., 2021) suggests that programmes aimed at increasing parental and community participation have resulted in teachers becoming more accountable and have helped to reduce teacher absenteeism.

A community-based monitoring programme should aim to mobilise parents and caretakers to engage in "meaningful collective action" (↑Wilke et al., 2021) that goes beyond simply noting teachers' chronic absenteeism in their children's schools. For instance, a parents' committee could report absenteeism formally or develop community-based mechanisms to monitor teachers' attendance. Often, parents from rural schools transfer their children to a different — probably religious or private — school when teacher absenteeism becomes disruptive.

In Uganda, in response to this 'exit' strategy from parents, ↑Wilke et al., (2021) showed parents informative videos about teacher absenteeism. They compared parents' willingness to act in response to the absenteeism. After watching the videos, parents reported being more likely to express their discontent regarding teacher absenteeism. However, this change in willingness to express discontent did not occur in parents who had not watched the video, even if they knew their children's teachers were often absent (↑Wilke et al., 2021). Further studies are needed to measure the effect of a parental awareness programme on parents' willingness to report issues such as teacher absenteeism.

3.2.2. Technology-based monitoring

The benefits of community monitoring are undeniable (for instance, community involvement in school councils, participating in time on task, attendance monitoring, and active parental participation in school meetings, among others). In some contexts of extreme vulnerability, however, parents in Sierra Leone might not have the motivation, time, or the means to carry out these tasks. The low educational background of parents has been clearly identified as a barrier to their active participation in school and teacher monitoring (↑Mozambique: Nugroho & Karamperidou, 2021). Additionally, relying on handwritten attendance records is not an option either since they can be easily altered and difficult for authorities to access (↑Nedungadi et al., 2018). The challenges of parents' low formal education levels and attendant low involvement in school monitoring, alongside unreliable teacher attendance records, are a severe constraint for Sierra Leone's education system. Therefore, the

possibility of using technology-based monitoring systems is an attractive alternative in some contexts.

Technology-based monitoring programmes could increase teacher attendance records transparency and provide accessible data for parents and school stakeholders. However, automated monitoring systems like time-stamped cameras or similarly complex devices would not be the right fit for remote schools due to the unreliable electricity supply and associated costs. As an alternative, several initiatives in India have used tablets or mobile monitoring in rural schools, yielding promising results (↑Nedungadi et al., 2018).

A few initiatives in Sierra Leone are starting to implement technology-based monitoring systems. For instance, the Ministry of Basic and Senior Secondary Education (MBSSE) has worked on digitising education data on tablets since 2018. In 2020, the Sierra Leone Education Attendance Monitoring System collected attendance data from 43 schools and verified the list of payroll teachers. Similarly, the Leh Wi Lan programme also used tablets for monitoring in 250 secondary schools but included lesson observations and performance reviews as well. This initiative has been expanded to all government and government-assisted secondary schools in Sierra Leone (↑McBurnie et al., 2022).

The One Tablet Per School programme was developed based on these experiences (↑McBurnie et al., 2022). School leaders from primary schools will use the tablets to register teacher and student attendance, Covid-19 cases, and other relevant information about teachers and students. For example, the tablets can store information about teachers' years of service and qualifications and student enrolment data. Disaggregated by different categories, such data could be registered in the tablet and accessed by education authorities (↑McBurnie et al., 2022). This and other data-driven initiatives could positively impact teacher attendance and teachers' time on task and could better inform education or public health policymaking.

A technology-based monitoring system can do more to improve teacher attendance beyond registering it; it could also be an opportunity to improve teacher motivation. As mentioned in Section 3.1, teachers report the availability of professional development and training as a relevant factor in remaining at or opting for a particular school (↑LMICs: UNESCO-IIEP, 2021). A mobile monitoring initiative in India provided data about teacher attendance while also creating a safe platform for teachers to continue learning (↑Nedungadi et al., 2018).

The project in India aims to monitor teacher attendance and time on task on the tablets provided, via WhatsApp. Using the tablets' cameras, teachers share lists of students who attended class and the contents covered in the lesson with the monitoring WhatsApp group. Coordinators then process the information. Besides monitoring, this approach has also been used for teacher training and informal teacher exchanges of pedagogical practices. The study results indicate that the monitoring system effectively reduced teacher absenteeism and increased adherence to lesson plans (↑Nedungadi et al., 2018).

However, technology-based monitoring programmes are not problem free. First, the initial cost of tablets for teachers and phone data to use the internet might be challenging for an educational system already struggling to pay teachers. Second, mobile connectivity in remote schools must be checked for internet use. Finally, there could be ethical issues regarding the use of children's pictures.

4. Conclusions

Sierra Leone is taking important steps towards ensuring education for all. However, this also means an increased need for teachers, especially in the most remote areas. As an urgent response, unqualified teachers have had to take jobs as teachers. Religious groups, communities, and private sector schools have also had to meet the demands of the increased need for education. However, currently, the majority of teachers cannot access a living wage because they are not on the government payroll or because they are volunteers. Low pay, in addition to overwork, could be related to poorer health and access to nutrition, which leaves teachers demotivated and in a vulnerable position, forcing them to find second jobs. They are prone to illness and often absent from the classroom. The lack of supervision, 'ghost' teachers, and shortage of schools are also hindering the government's efforts to ensure education provision in the most remote areas.

Teacher absenteeism is also related to education quality. According to the ↑World Bank (2021, p.10), teachers are "the single most important predictor of the quality of an education system." Nonetheless, high rates of teacher absenteeism are prevalent in Sierra Leone, hindering education. A deeper understanding of the reasons behind teacher absenteeism and finding measures to decrease it are fundamental to improve education quality and translating years in school into learning.

This review explores five factors associated with teacher absenteeism: location, health, school conditions, salary, and school management. The studies that support this literature review could inform policymakers and other researchers to create and implement measures to counteract the factors responsible for teacher absenteeism and allocation difficulties.

Two alternatives could be feasible for the context of Sierra Leone. First is implementing a community-based, technology-based, or blended monitoring system. Second, a more comprehensive allocation system that considers teacher preferences could increase teacher motivation and attendance.

Promising data has emerged from Sierra Leone and international experiences regarding monitoring and deployment alternatives. Further studies should analyse the effects of these measures on teacher attendance and motivation, student performance, female teacher enrolment, and female student retention.

5. Bibliography

This bibliography is available digitally in our evidence library at https://docs.edtechhub.org/lib/MS3CKE8G

Bennell, P., & Akyeampong, K. (2007). *Teacher Motivation in Sub-Saharan Africa and South Asia* (Department for International Development: Educational Papers, p. 114). DFID. https://assets.publishing.service.gov.uk/media/57a08be640f0b652dd000f9a/ResearchingtheIssuesNo71.pdf. (details)

Beoku-Betts, I. (2023). *Teacher Deployment in Sierra Leone: Lessons learnt and moving forward* [Policy briefing]. EdTech Hub. https://doi.org/10.53832/edtechhub.0145. Available from https://docs.edtechhub.org/lib/M3D6NGR4. Available under Creative Commons Attribution 4.0 International. (details)

Bertoni, E., Elacqua, G., Hincapie, D., Méndez, C., & Paredes, D. (2019). *Teachers' Preferences for Proximity and the Implications for Staffing Schools: Evidence from Peru*. Inter-American Development Bank. https://doi.org/10.18235/0001977. Available from https://publications.iadb.org/en/teachers-preferences-proximity-and-implications-staffing-schools-evidence-peru. (details)

Cummings, C. (2016). *Collective action and the deployment of teachers in Niger: a political economy analysis*. https://odi.org/en/publications/collective-action-and-the-deployment-of-teachers-in-niger-a-political-economy-analysis/. (details)

Donkor, A. K., & Waek, B. I. (2018). Community Involvement and Teacher Attendance in Basic Schools: The Case of East Mamprusi District in Ghana. *International Journal of Education and Practice*, *6*(2), 50–63. https://doi.org/10.18488/journal.61.2018.62.50.63. Available from https://archive.conscientiabeam.com/index.php/61/article/view/561. (details)

Education Commission. (2019). *Transforming the Education Workforce: Learning Teams for a Learning Generation*. Education Commission. https://educationcommission.org/wp-content/uploads/2019/09/Transforming-the-Education-Workforce-Executive-Summary.pdf. (details)

Espinoza-Revollo, P., Ali, Y., Garrod, O., Atherton, P., Mackintosh, A., Ramirez, A., Beoku-Betts, I., & Haßler, B. (2023). *School-to-School Mobility*

Patterns and Retention Rates of Payroll Teachers in Sierra Leone (Working Paper No. 48). EdTech Hub. https://doi.org/10.53832/edtechhub.0143. Available from https://docs.edtechhub.org/lib/DE7XUSMJ. Available under Creative Commons Attribution 4.0 International. (details)

Guerrero, G., Leon, J., Zapata, M., Sugimaru, C., & Cueto, S. (2012). *What works to improve teacher attendance in developing countries? A systematic review* (p. 125). EPPI: Centre, Social Science Research Unit, Institute of Education, University of London. https://assets.publishing.service.gov.uk/media/57a08a6040f0b652dd0006da/Q39Teacher_attendance_2012Guerrero.pdf. (details)

Haßler, B., McBurnie, C., & Beoku-Betts, I. (2023). *Outputs Register HLR3: The impact of GIS-supported teacher allocation in Sierra Leone*. EdTech Hub. https://doi.org/10.53832/edtechhub.0164. Available from https://docs.edtechhub.org/lib/WXBISTFE. Available under Creative Commons Attribution 4.0 International. (details)

Hedges, J. (2002). The importance of posting and interaction with the education bureaucracy in becoming a teacher in Ghana. *International Journal of Educational Development*, *22*(3), 353–366. https://doi.org/10.1016/S0738-0593(01)00057-8. Available from https://www.sciencedirect.com/science/article/pii/S0738059301000578. (details)

Kadzamira, E. C. (2006). *Teacher motivation and incentives in Malawi* (pp. 1–26). Centre for Educational Research and Training University of Malawi. https://www.semanticscholar.org/paper/Teacher-motivation-and-incentives-in-Malawi-Kadzamira/a2b3e1fc9da34646466000a5e60947f87fad425b. (details)

Karamperidou, D., Brossard, M., Peirolo, S., & Richardson, D. (2020). *Time to Teach: Teacher attendance and time on task in Eastern and Southern Africa*. https://www.unicef-irc.org/time-to-teach. (details)

Lee, M., Goodman, C., Dandapani, N., & Kekahio, W. (2015). *Review of international research on factors underlying teacher absenteeism*. Regional Educational Laboratory Pacific. Available from https://eric.ed.gov/?id=ED555740. (details)

Mackintosh, A., Ramírez, A., Atherton, P., Collis, V., Mason-Sesay, M., & Bart-Williams, C. (2020a). *Education Workforce Recruitment and*

Matching in Sierra Leone. https://educationcommission.org/wp-content/uploads/2020/12/4-EW-Recruitment-and-Matching-Paper.pdf. (details)

Mackintosh, A., Ramirez, A., Atherton, P., Collis, V., Mason-Sesay, M., & Bart-Williams, C. (2020b). *Education Workforce Spatial Analysis in Sierra Leone* (p. 31) [Research and Policy Paper]. Education Commission. https://educationcommission.org/wp-content/uploads/2020/12/2-EW-Spatial-Analysis-Paper.pdf. (details)

Mackintosh, A., Ramirez, A., Atherton, P., Collis, V., Mason-Sesay, M., & Bart-Williams, C. (2020c). *Education Workforce Spatial Analysis in Sierra Leone*. 31. https://educationcommission.org/wp-content/uploads/2020/12/2-EW-Spatial-Analysis-Paper.pdf. (details)

McBurnie, C., Godwin, K., Beoku-Betts, I., Bernard-Jones, L., & Haßler, B. (2022). *What Matters Most for Teacher Deployment? A case study of teacher preferences in Sierra Leone*. EdTech Hub. https://doi.org/10.53832/edtechhub.0095. Available from https://docs.edtechhub.org/lib/8GN4RWMR. Available under Creative Commons Attribution 4.0 International. (details)

Nedungadi, P., Mulki, K., & Raman, R. (2018). Improving educational outcomes & reducing absenteeism at remote villages with mobile technology and WhatsApp: findings from rural India. *Education and Information Technologies*, *23*(1), 113–127. https://doi.org/10.1007/s10639-017-9588-z. Available from https://www.researchgate.net/publication/315112660_Improving_educational_outcomes_reducing_absenteeism_at_remote_villages_with_mobile_technology_and_WhatsAPP_Findings_from_rural_India. (details)

Nugroho, D., & Karamperidou, D. (2021). *Time to Teach: Teacher Attendance and Time on Task in Primary Schools in Mozambique*. UNICEF. Available from https://eric.ed.gov/?q=subject%3aTeacher+Attendance&ff1=subTeacher+Attendance&id=ED615573. (details)

Senou, B. M. (2021). *Contract Type and Teacher Absenteeism in Benin: The Role of Teacher's Supplemental Income*. http://publication.aercafricalibrary.org/handle/123456789/2216. (details)

Suryahadi, A., & Sambodho, P. (2013). *Assessment of policies to improve teacher quality and reduce teacher absenteeism*. SMERU Research Institute. (details)

Teaching Service Commission. (2020). *Teacher Management Policy for Sierra Leone*. https://tsc.gov.sl/policies/. (details)

Turrent, V. (2012). *The teacher salary system in Sierra Leone* (p. 24). https://www.educationdevelopmenttrust.com/EducationDevelopmentTrust/files/3b/3b936954-5bde-4a23-b5c3-14117f7a2af5.pdf. (details)

UNESCO-IIEP. (2021). *Teachers deployment and retention | Education | IIEP Policy Toolbox*. https://policytoolbox.iiep.unesco.org/policy-option/teacher-deployment-teacher-retention/. (details)

Vijil, A., McBurnie, C., Bellinger, A., Godwin, K., & Haßler, B. (2022). *Factors Related to Teacher Absenteeism in Sierra Leone: Literature Review* (HLR3 Output No. 2). EdTech Hub. https://doi.org/10.53832/edtechhub.0082. Available from https://docs.edtechhub.org/lib/MS3CKE8G. Available under Creative Commons Attribution 4.0 International. (details)

Wilke, A. M., Green, D. P., & Tan, B. (2021). Encouraging Community Action Against Teacher Absenteeism: A Mass Media Experiment in Rural Uganda. *The Journal of Development Studies*, *0*(0), 1–16. https://doi.org/10.1080/00220388.2021.2008367. (details)

World Bank. (2012). *Automated teller machines (ATMs) (per 100,000 adults) - Sierra Leone*. https://data.worldbank.org/indicator/FB.ATM.TOTL.P5?locations=SL&most_recent_value_desc=false. Available from https://data.worldbank.org/indicator/FB.ATM.TOTL.P5?locations=SL&most_recent_value_desc=false. (details)

World Bank. (2018). *Incidence of malaria (per 1,000 population at risk) - Sierra Leone, Sub-Saharan Africa (excluding high income) | Data*. https://data.worldbank.org/indicator/SH.MLR.INCD.P3?locations=SL-ZF. Available from https://data.worldbank.org/indicator/SH.MLR.INCD.P3?locations=SL-ZF. (details)

World Bank. (2020). *Incidence of HIV, all (per 1,000 uninfected population) - Sierra Leone | Data*.

https://data.worldbank.org/indicator/SH.HIV.INCD.TL.P3?end=2020&locations=SL&start=1990. Available from https://data.worldbank.org/indicator/SH.HIV.INCD.TL.P3?end=2020&locations=SL&start=1990. (details)

World Bank. (2021). *Teachers and Teaching in Sierra Leone : Teacher Quality and Management Study*. https://openknowledge.worldbank.org/handle/10986/35918. (details)