

Teachers for All: Advancing Equity-based Teacher Deployment in Sierra Leone

Mapping shortages, distribution challenges
and teacher workforce factors shaping
foundational learning

In partnership with:

Ministry of Basic and Senior Secondary Education and Teaching Service Commission

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Foreword

I proudly present this report, *Teachers for All: Advancing Equity-based Teacher Deployment in Sierra Leone*, developed with the United Nations Children's Fund as part of the initiative Teachers for All: Sierra Leone. It marks a milestone in our commitment to improve foundational learning and secure a brighter future for every child.

Our nation's educational sector faces a substantial challenge. In the early stages of education, many children fail to acquire fundamental literacy and numeracy skills. The report emphasizes that this crisis primarily stems from issues related to the quality of instruction, highlighting the link between inadequate educational outcomes and the competence and deployment of educators.

The findings are compelling, and demonstrate that sub-par learning outcomes are exacerbated by the widespread presence of educators and teachers who are insufficiently prepared and qualified. The report underscores the uneven allocation of teaching staff, which results in disparities and shortages across various provinces and remote areas. Overcrowded classrooms, particularly at the early education levels, further complicate the teaching and learning process.

Our Ministry and the Teaching Service Commission recognize the importance of educators. Initiatives such as the Free Quality School Education and the Education Sector Plan 2022–2026 exemplify our commitment to educational advancement. This report substantiates our dedication by using data from the 2022 School Census and Primary Examinations, thereby providing a comprehensive overview of these areas.

The policy recommendations outlined are pragmatic and forward-looking. They emphasize:

- **leveraging our emerging data ecosystem** to facilitate more strategic deployment of teachers, with a focus on prioritizing newly trained and qualified educators to areas of greatest need, and integrating existing qualified volunteer teachers into the official payroll where feasible.

- **implementing targeted interventions** to attract and retain qualified teachers in remote schools, including addressing infrastructure deficits and providing both financial and non-financial incentives.
- **strengthening pedagogical practices** in the classroom through continuous professional development, coaching and the adoption of evidence-backed models like Teaching at the Right Level.

These recommendations outline a clear action plan to ensure that every child in Sierra Leone has access to high-quality, equitable education. By deploying qualified educators to key regions and establishing comprehensive systems complemented by continuous training, we can fortify the educational infrastructure and better prepare learners for their future responsibilities and the nation's overall development.

I call upon all stakeholders – government agencies, communities, civil society organizations, and development partners – to join us in this vital endeavour. Together, we can overcome these challenges and build a strong, sustainable education system that truly delivers learning for every child.

Conrad O. Sackey,



Minister of Basic and Senior Secondary Education, Sierra Leone

Executive summary

Sierra Leone has made significant strides in expanding access to education. Yet many children still do not acquire the foundational literacy and numeracy skills needed for continued learning and meaningful economic participation. Improving these outcomes requires stronger learning conditions, including better teacher preparation and a more equitable deployment of teachers. The Government has already taken active steps in this direction, including recent efforts to expand the teacher payroll and strengthen data-driven deployment decision-making.

This report (the first of three) contributes to that agenda, capturing findings from the Teachers for All (T4A) research initiative on teacher deployment in Sierra Leone's primary education system.

Developed in partnership with the Ministry of Basic and Senior Secondary Education (MBSSE), the Teaching Service Commission (TSC), United Nations Children's Fund (UNICEF) Sierra Leone, UNICEF Innocenti, and national partners, this report supports ongoing efforts to improve teacher deployment in the most challenging schools and to improve conditions for foundational learning across the system. It draws on national policy documents, Educational Management Information System (EMIS) data from MBSSE (2022), and interviews with key actors at the national, district and school levels.

1 in 3

primary teachers is unqualified, limiting the quality of instruction in many classrooms.

60%

Around 60 per cent of teachers are not on the government payroll.

Avg P-QTR
> 65:1

Many primary schools exceed the national benchmark of 65 learners per qualified teacher, with some districts recording over 120 learners per qualified teacher.

Key findings and recommendations

Sierra Leone's teacher workforce operates in a complex service delivery landscape shaped by post-conflict and post-epidemic recruitment, which led to the expansion of volunteer and non-payroll teachers. Teacher management responsibilities are distributed across several institutions, while mission and community schools play a significant role in education provision. These structural features create complexity in workforce planning and deployment, contributing to substantial disparities in teacher distribution across schools, particularly in rural and remote areas, and in the early grades where foundational skills are developed. What follows are suggested policy priorities:



1. **Improve the targeting and management of existing teacher resources:**

resources: Teacher workforce management is constrained by a complex institutional environment, limited fiscal space and emerging administrative capacity in TSC. Uneven teacher deployment across schools results in inequities in learning conditions and inefficient use of available personnel. Strengthening workforce planning and deployment is therefore essential. Priority actions include piloting and refining data-driven teacher deployment protocols, prioritizing the regularization of qualified volunteer teachers onto the payroll – particularly in underserved districts – and strengthening the Annual School Census and related data systems to support evidence-based planning and decision-making.



2. **Address teacher shortages in rural and remote schools:**

Although the national Pupil–Teacher Ratio (47:1) is close to international norms, large disparities across schools persist, particularly in access to qualified teachers. Rural and remote schools face the most severe shortages, and large early-grade class sizes risk disadvantaging students during the critical period for acquiring foundational literacy and numeracy. Policy responses should combine improvements to school infrastructure (such as electricity, water and connectivity) with targeted incentives to attract and retain teachers in hard-to-staff areas. These may include financial allowances, recognition programmes, career advancement opportunities linked to service in remote areas, and deployment strategies such as placing teachers in pairs.



3. Continue efforts to strengthen instructional quality through aligned teacher support and deployment.

Sierra Leone's foundational learning crisis is closely linked to challenges in teacher quality, deployment and classroom readiness. Encouragingly, MBSSE, with support from UNICEF and the Global Partnership for Education, is implementing at-scale reforms to support teachers and foundational learning, especially in the early grades. The findings of the T4A Sierra Leone study reinforce the need to sustain and extend this work, particularly by aligning deployment policy with training so that qualified, trained teachers are prioritized in classrooms in underserved schools.

Together, these measures aim to improve teacher allocation, strengthen incentives for service in underserved areas and enhance classroom instruction – key steps towards improving foundational learning and achieving Sierra Leone's broader education goals.



CHAPTER 1

Introduction

Improving foundational learning is a key priority for the Government of Sierra Leone. Children who fail to acquire basic literacy and numeracy not only fall behind in terms of grade-level competencies but are also unable to engage with more advanced curriculum and effectively move up the primary school cycle. The Government's Foundations of Learning for All reform agenda prioritizes foundational learning – setting clear goals around every Grade 4 student acquiring foundational literacy and numeracy (Sachdeva, 2022; Global Partnership for Education [GPE], 2024). Basic literacy and numeracy are also core objectives of Sierra Leone's Education Sector Plan (ESP) 2022–2026, with explicit targets of 80 per cent of students passing mathematics and language arts in the Basic Education Certificate Examination by 2026 (Sierra Leone, 2022).

Teacher quality is an important determinant of learning, but it is shaped by broader conditions such as teacher preparation, support, workload and deployment (World Bank, 2019; World Bank, 2023). In Sierra Leone, the Ministry of Basic and Senior Secondary Education (MBSSE) has set a benchmark of 65 pupils per qualified teacher¹ ratio at primary level and has prioritized efforts to recruit, retain and support educators for improved foundational learning in classrooms. Yet, shortages of skilled and qualified primary school teachers combined with the uneven deployment of the teacher workforce remain a significant challenge. These patterns are associated with wide variation in class sizes across the country and staff conditions across districts, chiefdoms and schools (Teaching Service Commission [TSC], 2019; Gutierrez Bernal et al., 2021; United Nations Girls' Education Initiative [UNGEI], 2023).

Recognizing the critical role of teachers, the country has taken a multi-faceted approach to strengthening teacher workforce management.

Considered the country's greatest asset, teachers have been the focus of several policy reforms (TSC, 2019). In 2011, the establishment of a standalone TSC aimed to increase administrative capacity to regulate the teaching profession. A package of decentralization reforms also aims to enhance the responsiveness and efficiency of education service delivery, including the creation of ward education committees, district TSC offices and the hiring of school supervisors at the regional level. In addition, a newly instituted teacher registration and licensing process aims to enforce minimum standards, while a teacher deployment protocol pilot aims to systematize teacher allocation across educational levels and districts – aligning teacher assignment with the student population and learning needs derived from assessment data.

Stronger teacher deployment can ensure the current workforce is utilized more equitably and efficiently in a constrained fiscal environment. More targeted deployment of qualified teachers to underserved communities can help level the playing field for disadvantaged learners. At the same time, improving the allocation of the existing teachers can maximize the effectiveness of current public resources without necessarily increasing the workforce size. Put another way, strategic

¹ In this report, “qualified teacher” and “trained teacher” are used interchangeably to refer to teachers that meet the basic qualifications (in terms of their pre-service education) required to be a teacher. The report examines both the Pupil-Teacher Ratio (PTR), which reflects overall staffing levels, and the Pupil-Qualified-Teacher Ratio (P-QTR), which reflects access to qualified teachers. The latter is particularly important for understanding disparities in learning conditions.

allocation deploys existing teachers to where they are needed most – improving learning conditions in the current resource envelope and making the best use of available resources. More efficient resource management also opens fiscal space for interventions to specifically improve teaching and learning.

Leveraging data and evidence is a key pillar of MBSSE’s efforts to improve human capital. A consortium of technical assistance partners has supported the government in strengthening the data ecosystem, improving the MBSSE and TSC’s capacity to collect and use evidence to inform policy decisions. Initiatives such as the [education data hub](#) and the [Teacher Management Information System](#) combine multiple sources of education data to strengthen decision-making. Recent research programmes from the [Learning Generation Initiative](#) (formerly the [Education Commission](#)), [Fab Inc](#), [EdTech Hub](#) and the World Bank Group, have provided greater insight into the challenges of the teaching profession – helping policymakers understand the teacher mobility patterns, preferences and motivations.

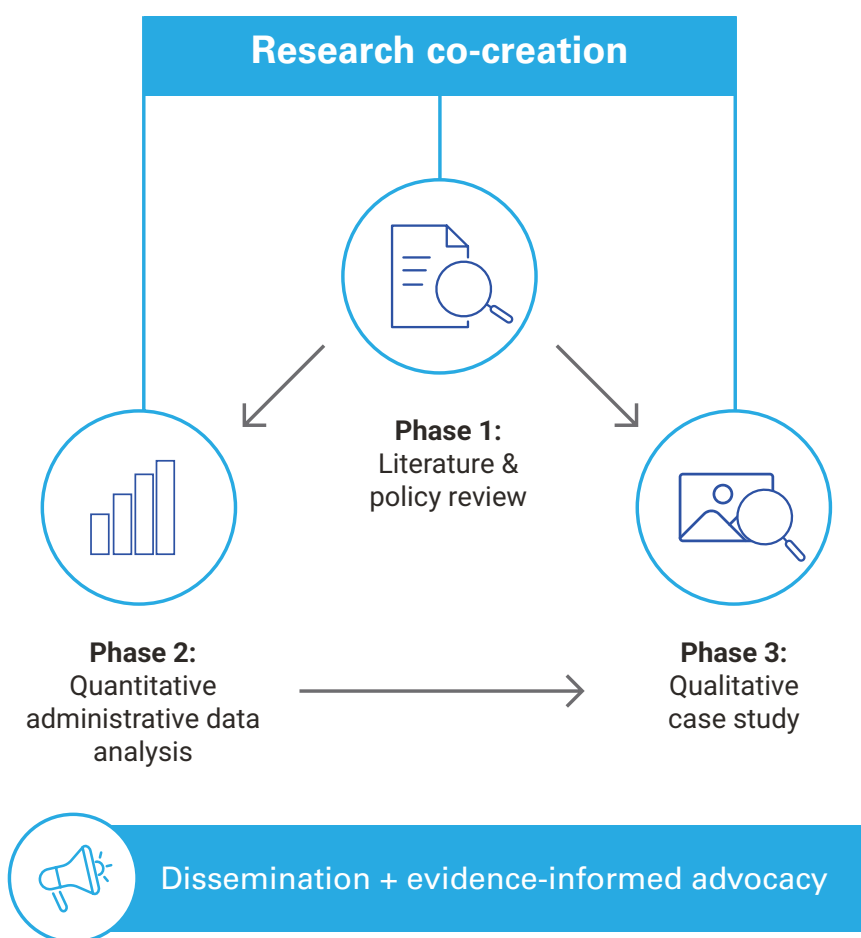
The [Teachers for All \(T4A\)](#) research initiative contributes to this objective by identifying the magnitude and distribution of primary teacher shortages and avenues to address inefficiencies in teacher distribution. In Sierra Leone, the project aims to build on the existing knowledge base and support the MBSSE and TSC to improve strategic planning and better translate ongoing investments into foundational learning outcomes.

This document, the first in a series of three,² addresses the following research questions:

1. [How does teacher allocation at the primary level influence foundational learning outcomes?](#)
2. [How are primary school teachers distributed across Sierra Leone?](#)
 - a) How are teachers allocated between different schools?
 - b) How are teachers distributed across various districts and in those districts?
 - c) How are teachers distributed within schools?

² The three documents include ‘*Research report: Mapping shortages, distribution challenges and teacher workforce factors shaping foundational learning*’, ‘*Thematic research note 1: Insights for enhancing women’s representation*’ and ‘*Thematic research note 2: Managing and formalizing Sierra Leone’s volunteer teachers*’. All documents in this series can be found at <https://www.unicef.org/innocenti/reports/teachers-all-sierra-leone>

Figure 1: T4A Research Approach



The research relies on a mixed-methods design underpinned by a co-creation process to ensure the relevance of its scope and direction

(Figure 1). The quantitative dimension examines the distribution and allocation patterns of primary school teachers, including assessing regional variations in teacher qualifications. Quantitative evidence is drawn from EMIS data (MBSSE, 2022) and complemented by data from the National Primary School Examinations (NPSE) to add an additional quality lens *(detailed in Annex 1)*.

Beyond the quantitative data, primary qualitative data were collected and leveraged to delve deeper, exploring the underlying reasons, motivations and contexts behind the outcomes seen in the numerical data. An explanatory case study methodology was used, drawing on a review of policy and planning documents and primary qualitative data collection at the central, district and school levels (detailed in Annex 5).

In November 2023, a multi-stakeholder workshop was held with MBSSE and TSC officials, civil society organizations, researchers and development partners. This consultation collaboratively shaped project objectives and research questions, ensuring the analysis would respond directly to MBSSE challenges, policy priorities and the ongoing education reform agenda. The findings draw on a quantitative analysis of the Annual School Census (ASC) and examination data to identify patterns in teacher allocation, in addition to key informant interviews and focus group discussions to understand the drivers and dynamics behind teacher deployment challenges.



CHAPTER 2

Sierra Leone's teacher challenge in context

2.1. School access and learning

Children in Sierra Leone have faced significant education challenges.

The most recent ESP reported that in 2018, approximately 524,000 school-aged children (22 per cent) remained out of school, with about one third having dropped out prematurely, and that 30 per cent of students do not complete basic education (Sierra Leone, 2022). The Government has responded with flagship education reform programmes including the Free Quality School Education and the Radical Inclusion Policy, underpinning its efforts to expand education access to all children and ensure they acquire foundational literacy and numeracy. To support these programmes, the Government allocated 22 per cent of the public budget to the education sector in 2023, and is expected to maintain it between 20 and 21 per cent through 2026 – representing one of the highest in sub-Saharan Africa (Sierra

Leone, Ministry of Finance, 2023).³ Without access to school, children cannot acquire basic skills; though access alone has not guaranteed learning.

Foundational learning outcomes are equally concerning and jeopardize Sierra Leone’s development aspirations. While the Free Quality School Education programme has led to an expansion in education coverage, progress in quality has been less promising. Assessments consistently show that a large share of students complete primary school without acquiring basic literacy and numeracy (details in Section 4) – and a child born in Sierra Leone today can expect just 4.9 learning-adjusted years of education (Gutierrez Bernal et al., 2021). With approximately 40 per cent of the population aged 15 or younger, strengthening the skills, abilities, competencies and agency of children and adolescents is critical to enabling the country to harness its potential demographic dividend (UNGEI, 2023).

Among the multiple factors shaping these outcomes, the availability, preparation and distribution of teachers are especially important because they directly affect classroom conditions and instructional support. Effective classroom instruction depends on reasonable class sizes staffed with capable and well-supported teachers. Yet, the shortage of skilled and qualified primary school teachers remains a binding constraint – a challenge compounded by the uneven deployment of the teacher workforce, which contributes to large differences in class sizes across the country, high teacher workloads, burnout and absenteeism (TSC, 2019; Gutierrez Bernal et al., 2021; UNGEI, 2023). These dynamics are particularly acute in rural and remote areas, which have historically struggled to attract and retain qualified teachers – a structural pattern explored in subsequent sections. These challenges and the links to the teacher workforce must be understood in the broader institutional and service delivery context.

2.2. Governance of the education sector

The education governance landscape in Sierra Leone is complex, as education services are financed and delivered by a mix of state and non-state actors. The urgent need to rebuild the education system during post-conflict recovery, along with rapidly rising student enrolment, resulted in education

3 Data drawn from The World Bank, ‘Government Expenditure on Education, Total (% of Government Expenditure) – Sub-Saharan Africa’, https://data.worldbank.org/indicator/SE.XPD.TOTL.GB.ZS?locations=ZG&most_recent_value_desc=true, accessed 25 January 2025.

demand surpassing the state's administrative and fiscal capacity. As a result, non-state actors stepped up to address the gap. Schools established by faith-based organizations (missions) and local communities have grown steadily since the 1990s, particularly in underserved rural and remote areas (Bennell, Harding and Rogers-Wright, 2004).

BOX 1

Legal and regulatory framework for teachers in Sierra Leone

The Education Act (2004) underpins the management of the education sector. It established the 6-3-3-4 grade system and administrative structure and outlined the two-stage school approval process that qualifies community and mission schools for government assistance.

The Act also outlined a framework for teacher workforce management (Part VIII) including the appointment, transfer and dismissal of teachers (Sections 41–43) and certification and licensing requirements (Section 36, 1–2). It also proposed creating an independent TSC, recommending that it take over the oversight of teacher management from the MBSSE, once established.

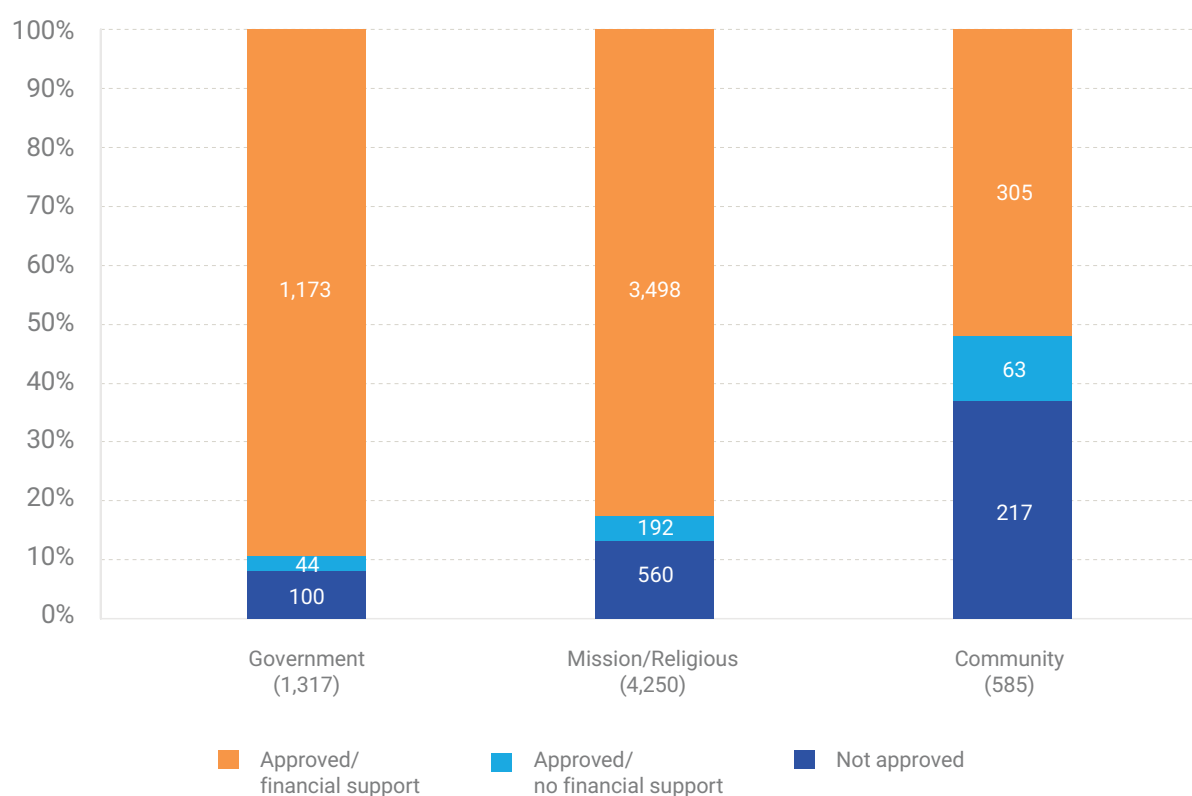
The Basic and Senior Secondary Education Act of 2023 codified TSC's role, establishing minimum qualification requirements for permanent teachers (a professional certificate and licence issued by the TSC) and confirming that teacher transfers, promotions and professional development would be guided by TSC regulations.

Source: Author's summary based on consultations with MBSSE stakeholders; (Nwokeocha et al., 2023).

Today, while the government oversees and regulates the entire education sector, it owns and operates only 18 per cent of primary schools. Most primary schools (58 per cent) are owned and operated by religious missions, while 14 per cent are established and run by local communities, often located in the most disadvantaged regions. The remaining 10 per cent of independent, private schools are owned, funded and managed by other actors and are concentrated mainly in urban areas.

The government provides financial support to a large share of ‘government-aided’ mission and community schools. Through a two-stage approval process, MBSSE first verifies that a school meets its minimum criteria to operate, and at a subsequent stage, provides financial support through teacher salaries and enrolment-based grants (MBSSE, 2020).⁴ In 2022, 80 per cent of primary schools (6,028 out of 7,457) achieved level-one approval. Among these approved schools, 87 per cent (5,201 schools) went on to receive financial support (level-two approval). The school approval process, however, is not systematic and lacks transparency (Gutierrez Bernal et al., 2021). For example, in 2022, more than 250 mission and community schools have applied and are awaiting level-two approval decisions, and over 100 government schools are still unapproved by the MBSSE (*Figure 2*).

Figure 2: Share of schools approved and receiving financial support, by school type (2022)



Source: Author's calculations using EMIS data (MBSSE, 2022).

Note: Brackets denote the number of schools in each category. Includes government, mission/religious and community schools only.

4 There are two stages of the MBSSE approval process. Level-one approval provides a school with an ID code if it meets the Ministry's criteria regarding physical conditions and demonstrated need based on population and existing schools. Level-two approval qualifies a school for government financial assistance if it meets additional criteria, including minimum financial management capacity, the ability to meet at least 20 per cent of the running cost of the school; the existence of a school management committee; the ability to host IT equipment, and an "adequate" number of teachers to meet TSC guidelines (MBSSE, 2020).



2.3. Teacher workforce management

The operationalization of TSC in 2016 reflects the government's intention to address teacher management challenges. TSC is a semi-autonomous body that acts as both an employer and regulator, managing “the affairs of teachers to improve their professional status and economic well-being” (Teaching Service Commission Act, 2011). While TSC has independent management, its governing board is largely made up of the heads of government parastatals.

Strengthening teacher management through TSC

TSC was envisioned in the National Education Policy 1995 and later elaborated in the Education Act 2004 which proposed shifting teacher management duties from MBSSE to TSC. The National Education Policy of 2010 specifically defined TSC's roles, and the Teaching Service Commission Act of 2011 removed MBSSE from direct involvement in teacher management policy implementation. TSC was formally established by an Act of Parliament in 2011 and fully operationalized between 2016 and 2017.

TSC is both an employer and a regulator and operates as a parastatal of MBSSE. The TSC mandate covers teacher registration and licensing, teacher management and payroll, teacher performance and development, and teacher-employer relations. At the central level, TSC has the following directorates which illustrate the scope of its operations:

- Directorate of Teacher Management (recruitment, deployment, transfer, promotion, retirement/separation)
- Directorate of Teacher Registration and Licensing
- Directorate of Teacher Development and Performance
- Directorate of Teacher-Employer Relations
- Directorate of Corporate Services (finance, IT, HR, procurement)

To improve the governance of teachers, teacher management is increasingly decentralized to the district level. To bring decision-making closer to communities, TSC established 16 district offices in 2019, staffed with two officers mandated to:

- assess school demand for teachers throughout the district, and oversee teacher recruitment, induction, replacement, promotion, and transfer.
- prepare and implement district work plans/budgets.
- ensure adherence to national professional standards by teachers and school leaders.
- document and register all trained and qualified teachers.
- maintain accurate data of all Teacher Performance Development Trainings in the District.
- coordinate with school leaders to ensure the completion and submission of teacher assessments, promotions and transfers to the district office.
- act as the first line of contact for matters of teacher discipline and grievances.

Source: TSC 2021 as cited in Nwokeocha et al. 2023

TSC has been proactive in improving the governance of the teacher workforce, materialized in the development of four policy frameworks between 2019 and 2020, aligned with its mandate (under the TSC Act of 2011):

- **The Comprehensive and Harmonized National Teacher Policies (2019)** outline standards and procedures related to teacher professionalism, registration, certification and licensing. It stipulates the criteria for registration, categorization of teachers according to career path, and fees payable for each category of registration and licensing.
- **The Teacher Licensing Examination Guidelines and Syllabus** defines a quality assurance process, including a competency examination that teachers must digitally take before they can be registered and licensed to practice.⁵
- **The Human Resource Management Manual for Teachers and School Leaders (2020)** provides guidance on the rules related to new teacher registration and licensing protocols as well as professional development, performance appraisal and management, and codes of conduct.
- **The Teacher Deployment Strategy (2019)** improves the clarity and transparency of teacher deployment, distributing qualified teachers (those with a TC; see *Box 4*) based on a three-level categorization of schools. The strategy leverages standardized deployment protocols to prioritize districts most in need based on PTRs at the school level and proposes allocating all new teachers to the most remote schools, along with encouraging serving teachers to apply to these schools. The deployment protocol has recently been supplemented with a new tool, the Preference Matching Model, that utilizes an algorithm to account for teacher characteristics and preferences – using data on gender, location, language, experience, qualifications and subject specialization – to improve school–teacher fit. The tool also aims to deploy teachers close to their place of residence, aiming to improve retention, particularly in rural schools (Mackintosh et al., 2020a). In 2024, TSC operationalized this model, using the algorithm to place 2,000 newly licensed teachers on the government payroll. Early evidence suggests the approach improved the equity of deployment – directing more teachers to schools with the

5 There are five modules for the Teacher Licensing Examination: English Language grid for all categories of teachers; Mathematics grid for all categories of teachers; ICT grid for all categories of teachers; Teacher Education Curriculum grid for all categories of teachers; and Professional Standards grid for all categories of teachers. The examination for each of these categories covers the five modules at their relative levels of proficiency. TSC has not only developed the Teacher Licensing Examination guidelines and syllabus but also the actual test items for the examination. It is, therefore, on the verge of conducting examinations digitally (i.e., computer-based testing).

highest P-QTRs and to historically underserved districts – while reducing discretionary interference in placement decisions (Frazer et al., 2025).⁶

BOX 3

Teacher recruitment and deployment

TSC has proposed guidelines to ensure a streamlined and transparent teacher recruitment process. The annual recruitment exercise is a hybrid process involving the central headquarters (HQ) and district offices (DOs), and is designed to be carried out in five stages:

1. At the end of each year, school leaders estimate the need for teachers for the next school year and for the next five years.
2. The TSC-DO aggregates these teacher needs at the district level and submits them to TSC-HQ.
3. Based on the budget envelope and MBSSE priorities, TSC-HQ determines the size of the recruitment pool and centrally advertises vacancies through its website.
4. Eligible teachers (trained, qualified, licensed and registered with TSC) can apply digitally using the Teacher Management Information System platform. TSC can then accept or reject the application and modify the selected school for deployment. Teachers can also apply directly to the DO, which shortlists applications before forwarding them to the School Board or School Management Committee.
5. The School Board conducts interviews with candidates, sends the results to the TSC-DO, who communicates the results to applicants and then issues the TSC employment forms.

Interviews suggest the process is underway.

Source: TSC, 2020a; TSC, 2020b.

“The TSC mandate is to support teachers professionally and to make sure the learning outcomes are achieved... But it's not easy. The (financial) number is small.”

– TSC representative

Despite an ambitious policy framework, TSC is constrained by limited resources and is still building the administrative capacity needed to implement it. Interviews with central-level MBSSE and TSC respondents revealed a shared recognition of bottlenecks ranging from fiscal and resource challenges, as well as technical capacity challenges that limit the ability of TSC to deploy teachers effectively (especially to rural areas).

6 The policy brief notes that the algorithm's reach in the 2024 cycle was constrained by data quality limitations – including missing service years and inconsistent teacher identifiers – and by a relatively small pool of teachers who passed the licensing examination. These limitations underscore the importance of strengthening data systems and the licensing pipeline to maximize the model's impact in future deployment cycles (Frazer et al., 2025).

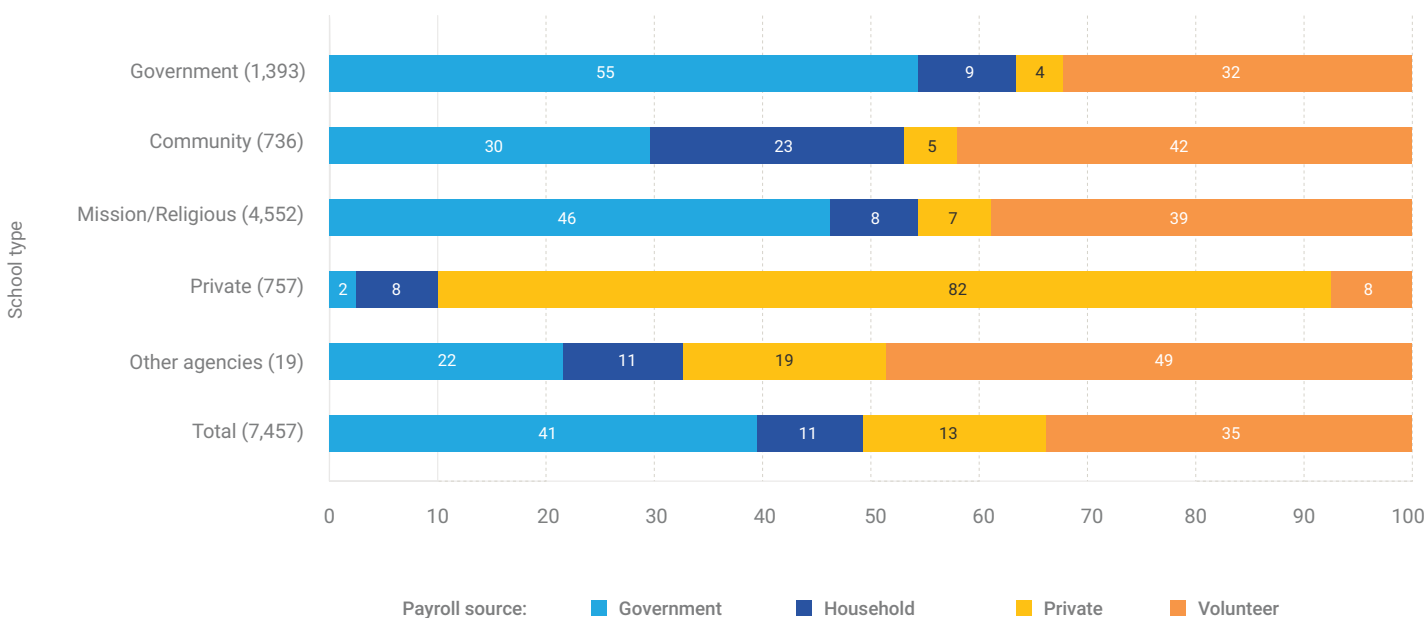
“We resort to contract (volunteer) teachers... TSC would like to carry out the mandate... But the problem is that resource-wise we are handicapped.”

– MBSSE representative

Limited resources and capacity to leverage data in TSC and MBSSE further constraints teacher deployment. Insufficient capacity to collect and provide timely access to data from all 16 districts, combined with data quality challenges, hinders its integration into TSC’s institutional processes. Poor integration and interoperability of various data sources are further exacerbated by inadequate funding for a long-term, integrated EMIS (GPE, 2024).

The diversity of education service providers and various teacher payroll sources complicates workforce management.

Figure 3: Primary teacher payroll sources, by school type (2022)



Source: Author’s calculations using EMIS data (MBSSE, 2022).

Note: Figure includes both approved and unapproved schools. Percentages may not sum to 100 due to rounding. The EMIS data shows that 2 per cent of private school teachers are on the government payroll, which is not supposed to be the case. MBSSE and TSC are further investigating the possible reasons behind this.

The MBSSE provides teacher payroll support to less than half of the primary teachers in the sector. Across the education system, primary teachers on the government payroll who receive a monthly salary make up around 40 per cent of the workforce (*Figure 3*). Government-approved mission and community schools – which represent the majority of schools in Sierra Leone – are also eligible for payroll support and receive the same school fee subsidies and school grants as government schools, with some missions and communities additionally funding teachers independently. The

remaining 60 per cent of the teachers in the system are either paid through contributions from households and parents, private contributions (such as donations, grants, sponsorships and support from non-state actors) or remain as unpaid 'volunteer teachers' that may be compensated from school grants or community resources. This theme is further analysed in T4A's ['Thematic research note 2: Managing and formalizing Sierra Leone's volunteer teachers'](#) publication.

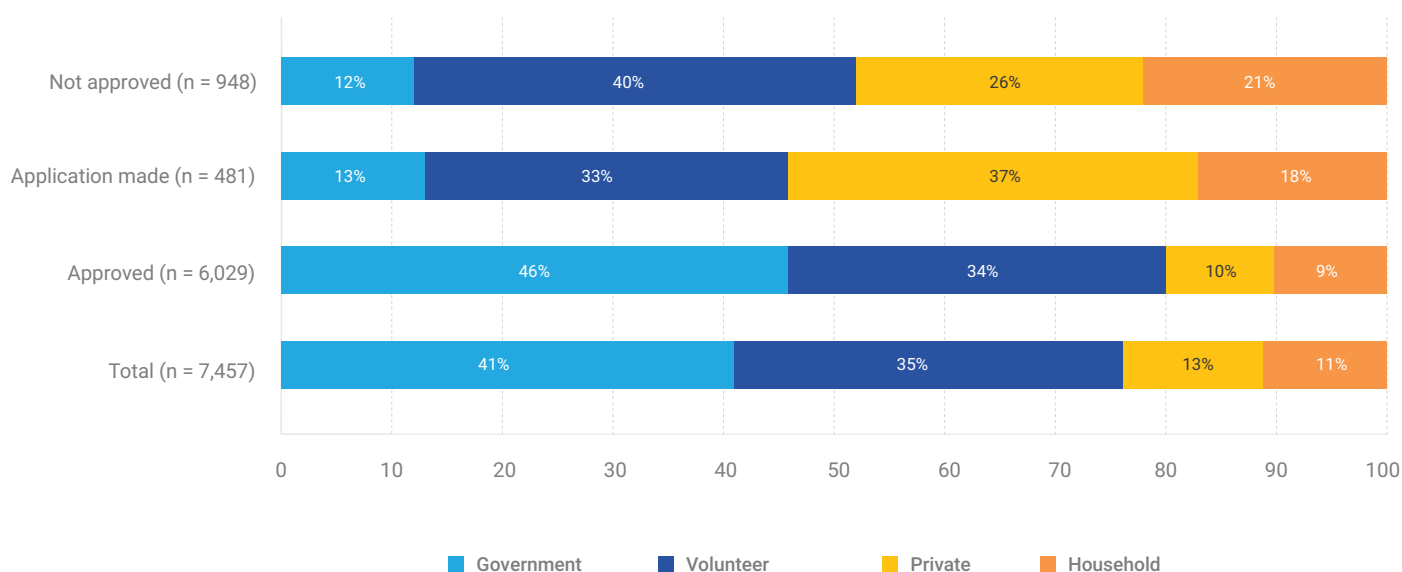
The diversity of service providers and payroll arrangements adds complexity to workforce management. School leaders often employ teachers from multiple payroll sources, regardless of the type of school. In government schools, just over half of the teaching force is officially on the public payroll. The remaining 32 per cent of the teachers in government schools are unpaid volunteers, while 13 per cent are compensated by households or private actors.⁷ In mission/religious schools – which represent the majority of schools in the system – about half of teachers are paid by the government, 15 per cent are paid by households/private actors, and 39 per cent are unpaid volunteers. In community schools, the government pays only one-third of teachers, while a third are paid by households, and the remaining teachers remain uncompensated.⁸

Schools approved by the MBSSE tend to have a higher proportion of teachers on the payroll. Nearly half of the teachers in approved schools are on the government payroll, compared to just 13 per cent in schools still awaiting approval or those that have not applied. This is expected as unapproved schools are ineligible for payroll support. However, it's important to note that around one in five teachers, even in approved schools, are still paid by households or private sources (*Figure 4*).

7 Based on EMIS data, 13 per cent of government primary school teachers are paid by households or other private sources (MBSSE, 2022). Despite commitments to universal free public primary education and legal guidance in the Education Act 2004 (sect. II, par.3), government-assisted primary schools commonly rely on user fees. Insufficient per-pupil subsidies from the government mean that schools rely on informal levies and fees from the community to cover operational costs.

8 The final category is private schools, primarily located in urban areas and staffed by privately paid teachers.

Figure 4: Teacher payroll source, by school application status (2022)

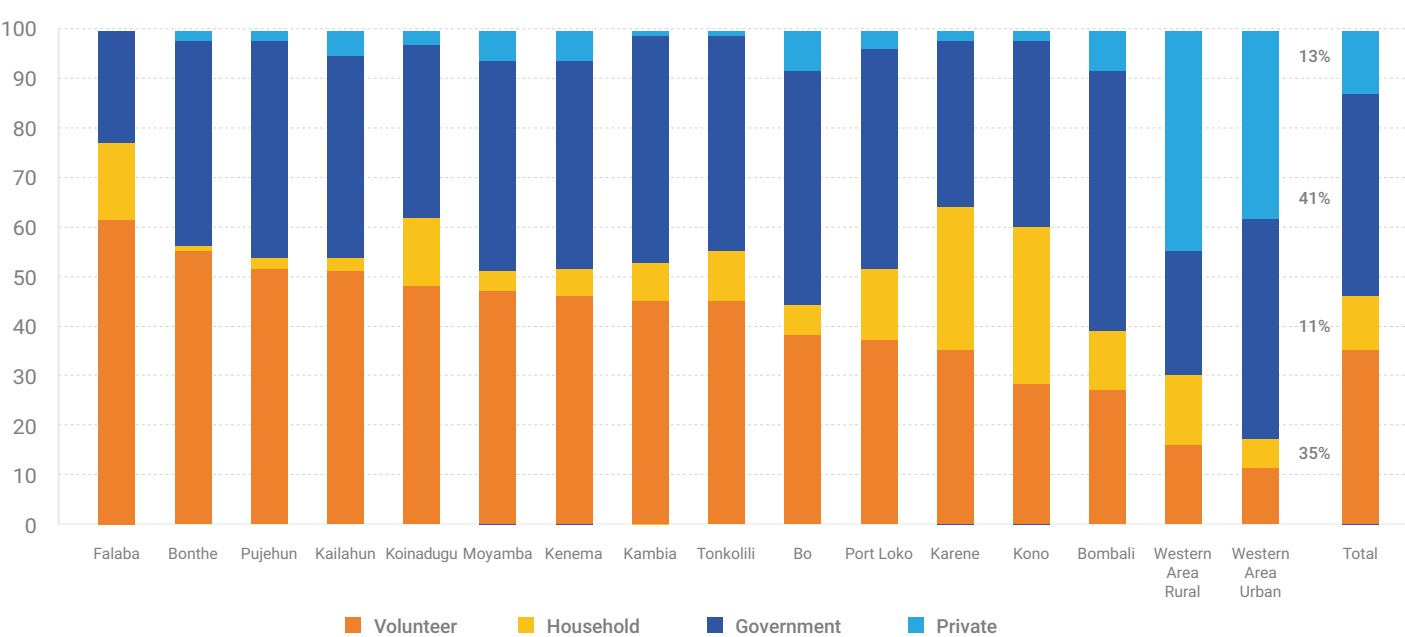


Source: Author's calculations using EMIS data (MBSSE, 2022).

Note: Figure includes both approved and unapproved schools. Percentages may not sum to 100 due to rounding. The EMIS data shows that 2 per cent of private school teachers are on the government payroll, which is not supposed to be the case. MBSSE and TSC are further investigating the possible reasons behind this.

Geographically, teachers outside the government payroll are concentrated in the outer districts, reflecting long-standing marginalization of districts further from the capital (Bennell, Harding and Rogers-Wright, 2004; Collier, 2016). For instance, in the districts of Bonthe, Falaba, Kailahun and Pujehun, more than half the teachers remain unpaid volunteers (*Figure 5*). Interviews highlighted that staffing primary schools in remote and inaccessible villages with qualified teachers on the payroll remains a major challenge, as many prefer postings closer to urban centres. Volunteer teachers, many unqualified, often fill the gap at these schools.

Figure 5: Teacher payroll source by district (2022)



Source: Author's calculations using EMIS data (MBSSE, 2022).

Note: N = 7,457 schools, both approved and unapproved

While volunteers play a crucial role in keeping schools operational, their informal status and limited training can contribute to uneven learning conditions. Their widespread use underscores the system's dependence on an unregulated workforce and the need for clearer pathways to professionalization and integration into the formal payroll.



CHAPTER 3

Unpacking teacher shortages and deployment patterns

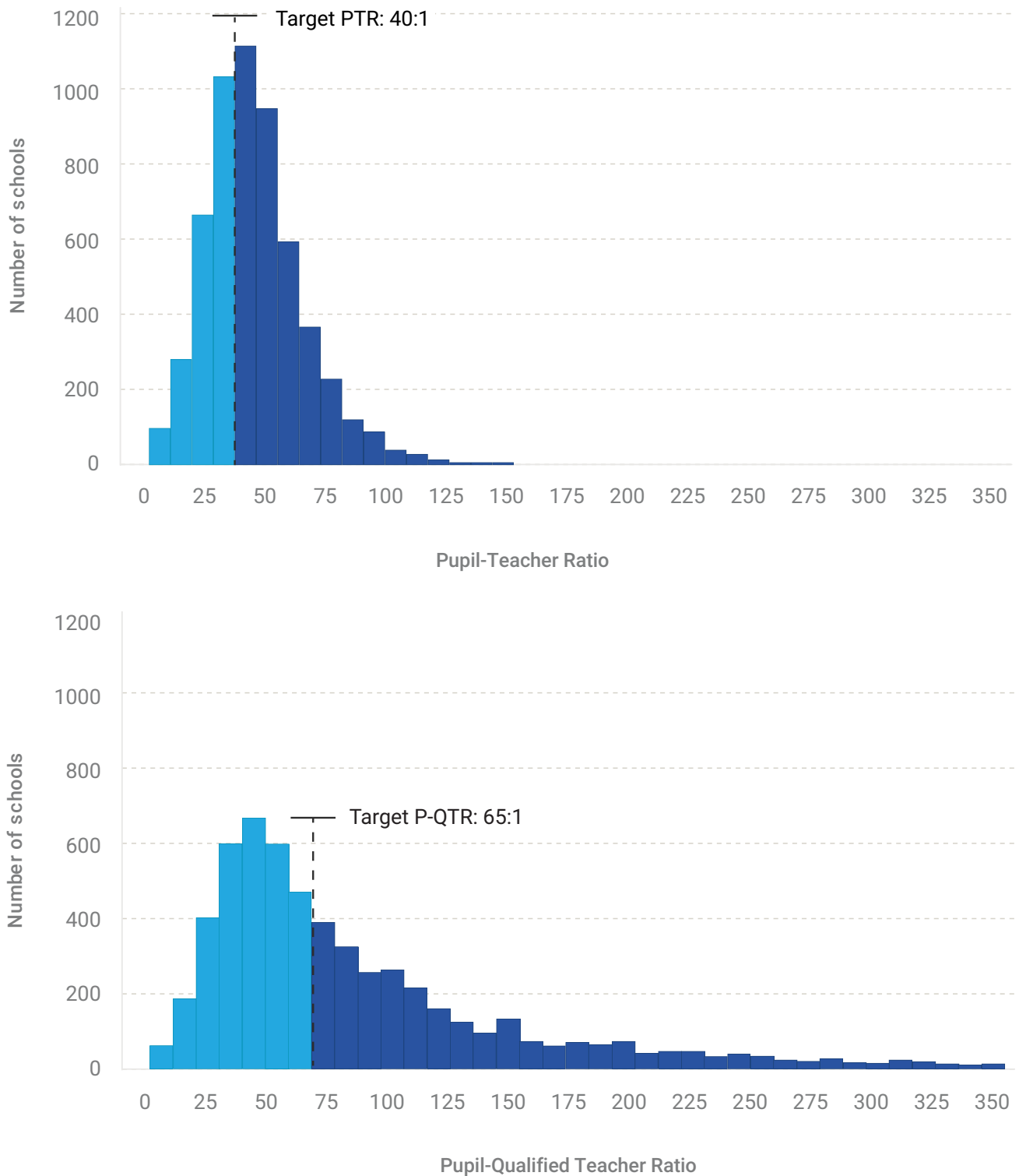
3.1. Teacher availability and quality

Sierra Leone's headline teacher statistics tell an incomplete story.

While the average national PTR of 47:1 appears close to national targets and global benchmarks, it conceals substantial differences across schools.⁹ *Figure 6A* illustrates the distribution of schools based on their PTRs, revealing that 55 per cent of schools exceed MBSSE's target PTR of 40:1 (represented by the darker shade of blue in *Figure 6A*). Teacher shortages are amplified at the margins with almost one in four schools approved by MBSSE with a PTR above 60:1, and one in ten schools with one above 75:1. This suggests the high incidence of overcrowded classrooms, posing serious challenges to effective classroom management, quality instruction and personalized attention.

⁹ PTR calculates for 5,764 government-approved primary schools, which include government, mission and community schools.

Figure 6A and 6B: Distribution of schools by Pupil-Teacher Ratio (6A) and Pupil-Qualified Teacher Ratio (6B)



Source: Author's calculations using EMIS data (MBSSE, 2022).

Note: Includes 5,764 government-approved primary schools (government, mission and community schools). MBSSE target for PTR is 40:1 and P-QTR is 65:1. Darker shade in the distribution represents schools with PTR and P-QTR figures above the government target.

Factoring in teacher qualifications – measured by Pupil-Qualified-Teacher Ratios (P-QTR) – reveals even greater challenges. Considering this metric, over half of Sierra Leone’s approved schools overshoot the target of 65 learners per trained teacher established in the ESP (represented in the darker shade of blue in *Figure 6B*).¹⁰ While there are 90 learners per qualified teacher on average, one in four schools in Sierra Leone has a P-QTR of over 110:1, and one in ten schools has a P-QTR of almost 200:1. At the same time, one in four schools have P-QTRs below 40:1, confirming the prevalence of large differences in how teachers are deployed between schools.

Unbalanced teacher deployment is both inequitable and inefficient – contributing to disparities in classroom conditions but also making ineffective use of the existing teacher workforce. The following sections unpack the patterns in the special allocation of qualified teachers highlighting pockets where teacher shortages are most acute.

¹⁰ The school approval policy guidelines build further on the ESP and have revised the P-QTR target to 40:1 for primary schools.

Becoming a qualified teacher in Sierra Leone

According to TSC regulations, teachers must have the relevant qualifications needed for their grade, be registered and have a licence to be eligible to teach.

The following qualifications are considered valid by TSC:

- Teachers' Certificate (TC), lasting one year
- Higher Teachers' Certificate (HTC) – Primary, lasting two years
- HTC – Secondary, lasting two years
- Degrees in education (e.g., BEd, MEd or a degree in another field plus a teaching qualification like a PGDE), lasting four years

The minimum qualification needed for primary school teachers is a TC or its equivalent, while for junior secondary teachers, it is the HTC – Secondary. For senior secondary, a bachelor's degree in education is required.

Teacher salaries vary based on qualifications. Untrained (or unqualified) teachers are classified as Grade 2, with a monthly salary of 759,400 leones (US\$90). Teachers with a TC, diploma or certificate are Grade 6, earning 965,000 Leones (US\$115). Senior teachers with an HTC are classified as Grade 7, earning 1,152,500 Leones (US\$137).

Source: (TSC, 2019; Gutierrez Bernal et al., 2021).

3.2. Mapping teacher shortages: District- and chiefdom-level insights

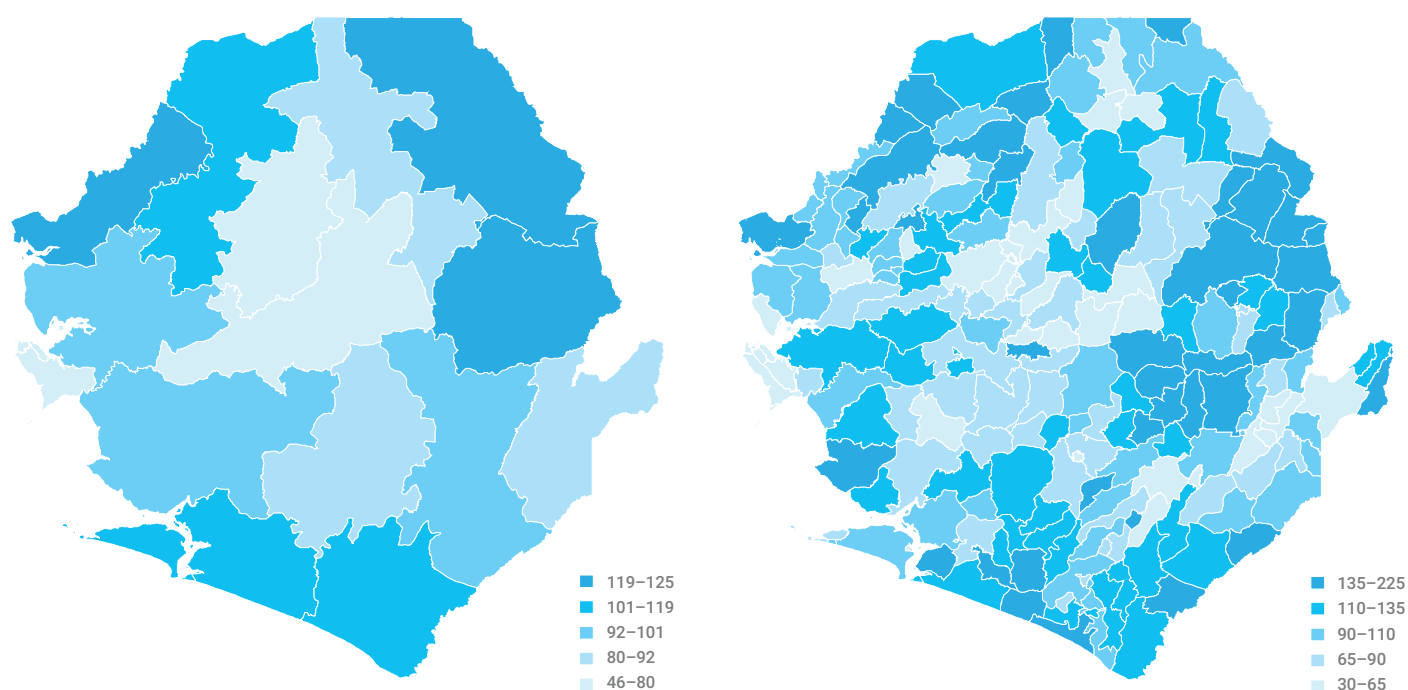
While the lack of qualified teachers is a pressing national challenge, there are notable disparities across the territory. Looking below, *Figures 7A and 7B* unpack teacher distribution geographically – across districts and chiefdoms – revealing the pockets where teacher shortages are the most pronounced.

- **Districts furthest from the capital city of Freetown, commonly known as “the provinces”, experience the largest P-QTRs.** Schools in most urbanized and economically developed districts are well within MBSSE's class size targets (with an average P-QTR of 46:1). In contrast,

the provinces – or districts in the north-east and south – such as Kono (P-QTR of 125:1), Falaba (122:1) and Kambia (121:1) experience P-QTRs more than double that of Western Area Urban (46:1)

- **Moreover, important teacher shortages are localized in pockets inside districts.**¹¹ Only 15 per cent of chiefdoms in Sierra Leone meet the MBSSE's P-QTR target of 65 learners per trained teacher. The severe shortages are concentrated in the outer districts. For instance, over half the chiefdoms in Kono and Kenema experience an acute qualified teacher shortage, defined as having a P-QTR of more than double MBSSE's target of 65:1.

Figure 7A and 7B: Teacher distribution of qualified teachers across districts (7A) and chiefdoms (7B)



Source: Author's calculations using EMIS data (MBSSE, 2022).

Note: Includes only 5,764 government-approved primary schools (government, mission and community schools). The thresholds in the legends correspond to limits that divide the population of districts (left map) and chiefdoms (right map) into five parts (quintiles of the distribution), which means that each group represents 20 per cent of the total number of districts (or chiefdoms). For example, in the top figure, the 20 per cent Districts with the lowest P-QTR have a P-QTR ranging between 46 to 80, on average.

¹¹ The standard deviation of the P-QTR within districts (standard deviation = 25) is three times the standard deviation between districts (standard deviation = 8), suggesting high variation in teacher allocation within districts.

Teacher shortages are more pronounced for women teachers. In Sierra Leone, only 28 per cent of the teachers are women, and they are highly concentrated in urban areas. While the Western Area Urban District (where Freetown is located) has achieved teacher gender parity, most other districts, especially those further from the capital have significantly lower representation of women. In the outer districts of Falaba, Karene and Pujehun, for instance, only one in six teachers is a woman. This underrepresentation is a barrier to Sierra Leone's aspirations for a gender-equitable society and is explored further in [‘Thematic research note 1: Insights for enhancing women’s representation’](#).

3.3. Aligning teacher supply and demand

Teachers at the primary level are often not deployed where they are most needed, as shown by the coherence analysis (see Annex 1 for the definition of “degree of coherence”). In government-approved schools, student enrolment explains less than half the variation in how teachers are distributed (degree of coherence (R^2) of 40 per cent).¹² In practice, this means that some schools with 300 learners (the average school size in Sierra Leone) may have fewer than five teachers, while others have up to 25 teachers (*Figure 8A*). The low coherence observed in Sierra Leone indicates that teachers are not located in the schools that need them the most – while some schools have overcrowded classrooms, others experience teacher surpluses.

This mismatch between teacher supply and actual needs indicates a less equitable and potentially inefficient use of the existing teacher workforce. On closer examination, in 40 per cent of chiefdoms, teacher allocation is driven by factors other than student enrolment (chiefdoms where a degree of coherence below 50 per cent ($R^2 < 0.5$), represented by the darkest shades in *Figure 8B*).

¹² Coherence calculations include all school types, including madrassas.

Figure 8A: Relationship between teacher supply and teacher demand (2022)

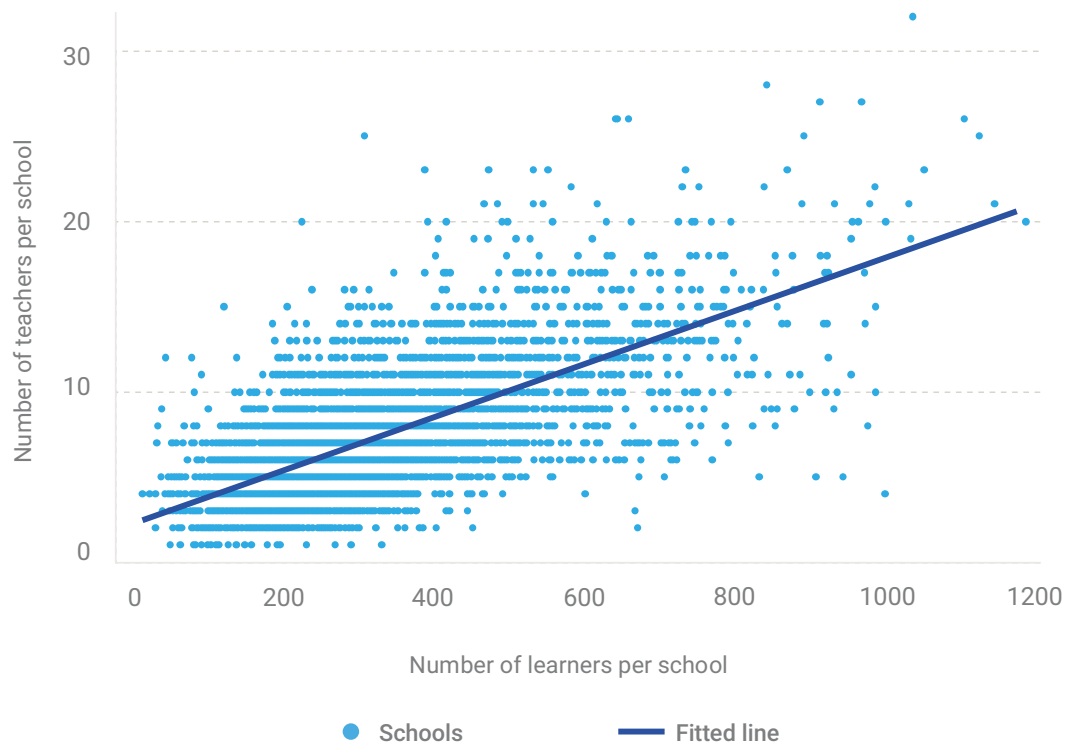
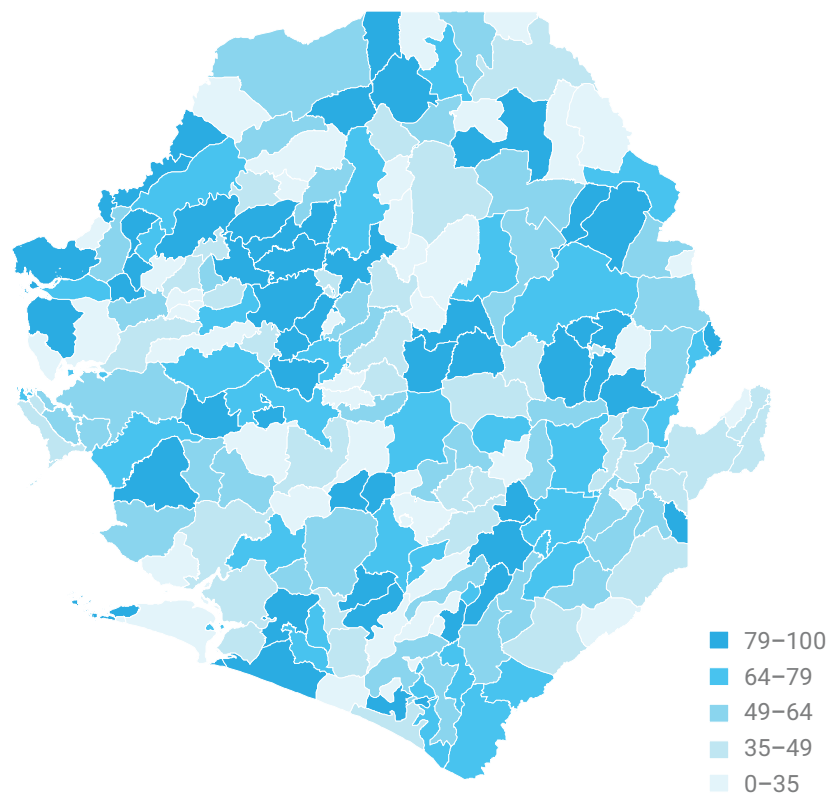


Figure 8B: Randomness in teacher allocation, by chiefdom (2022)



Source: Author's calculations using EMIS data (MBSSE, 2022).

Note: Includes only 5,764 government-approved primary schools (government, mission and community schools). The thresholds in the legend of the map correspond to limits that divide the population of chiefdoms into five parts (quintiles of the distribution), which means that each group represents 20 per cent of the total number of chiefdoms. For example, for the 20 per cent of chiefdoms with the lowest randomness, it ranges between 0 and 35.

The coherence of teacher allocation is also lowest in community schools (R^2 of 0.33), compared with government schools (R^2 of 0.42) and mission schools (R^2 of 0.46). It is important to highlight that TSC is aware of this discrepancy in teacher distribution across chiefdoms and schools and is actively exploring the use of EMIS data (MBSSE, 2022) to guide the redistribution of payroll teachers from oversubscribed schools to undersubscribed schools.¹³

Taken together, the acute shortage of qualified teachers (high P-QTRs) and the weak alignment between teacher supply and demand highlight some of the most pressing equity and efficiency challenges facing Sierra Leone's education system. *Figure 9*¹⁴ represents both measures, the average P-QTRs and degree of coherence, at the chiefdom level. Four typologies emerge:

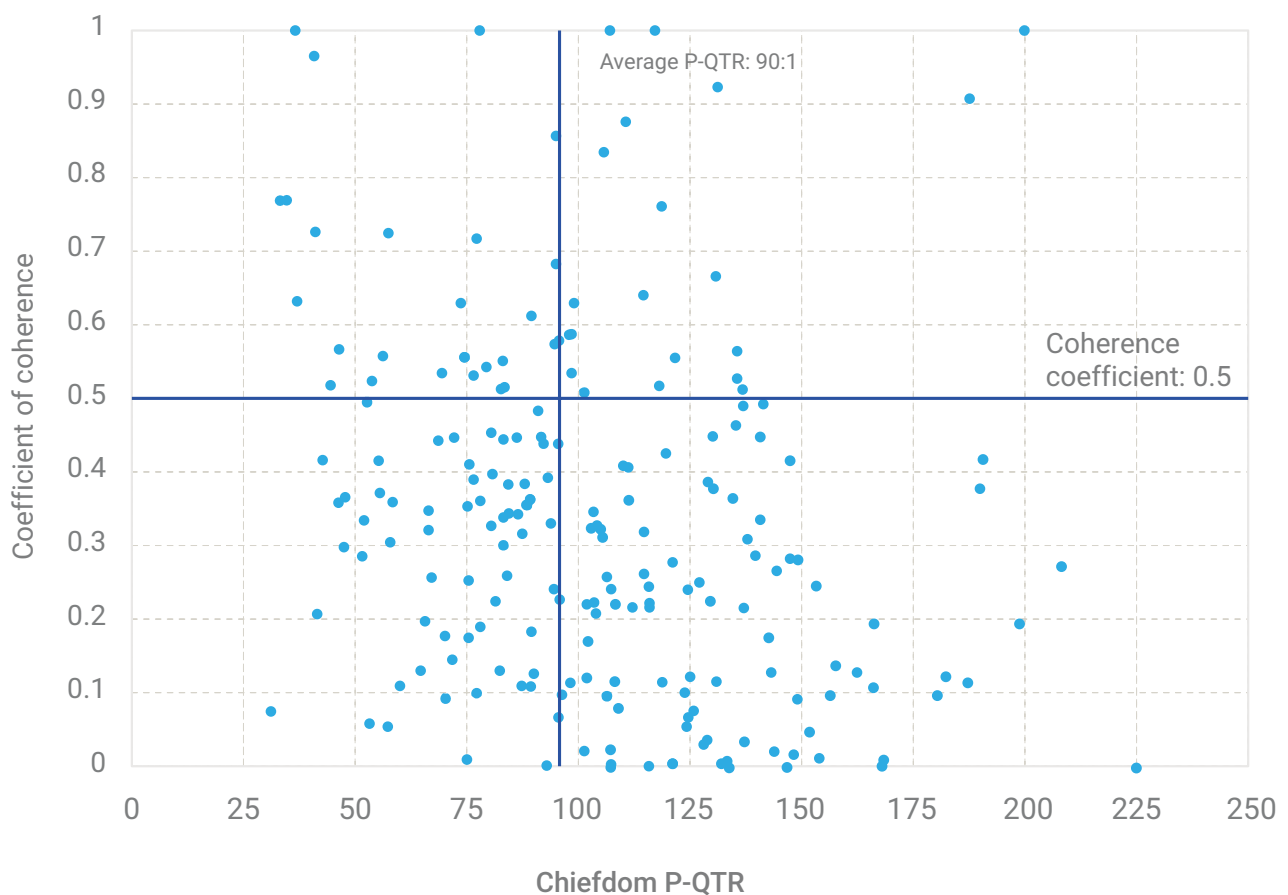
- The upper-left quadrant represents the few chiefdoms (23 chiefdoms) where coherence is high and teacher shortages are minimal.
- In the upper-right quadrant, there are chiefdoms where coherence is high, but shortages remain severe. These cases (25 chiefdoms) point to an urgent need to attract new qualified teachers into the system, upgrade untrained teachers currently in post or redeploy trained teachers from other chiefdoms.
- The lower-left quadrant captures situations where shortages are not acute, but coherence is low (56 chiefdoms). In these cases, efficiency could be improved by reallocating more qualified teachers to schools with higher student enrolment.
- The lower-right quadrant reflects the most acute situation (103 chiefdoms). It includes chiefdoms with both low coherence and the greatest qualified teacher needs, reflecting the most severe challenges in terms of both equity and efficiency. These cases, however, require the most straightforward intervention, as improving coherence – by reallocating qualified teachers from schools with surpluses to schools with deficits within the same chiefdom – can lead to significant improvements.

¹³ In Sierra Leone's education context, oversubscribed and undersubscribed schools refer to schools with relatively more or fewer payroll teachers than indicated by pupil enrolment and staffing needs, respectively.

¹⁴ The figure includes 207 administrative units (listed in Annex 4). The Western Area lacks chiefdoms and is represented by 12 ward-level subunits; remaining discrepancies reflect EMIS classification of locally distinct or recently split localities. EMIS data (MBSSE, 2022) are from approved schools.

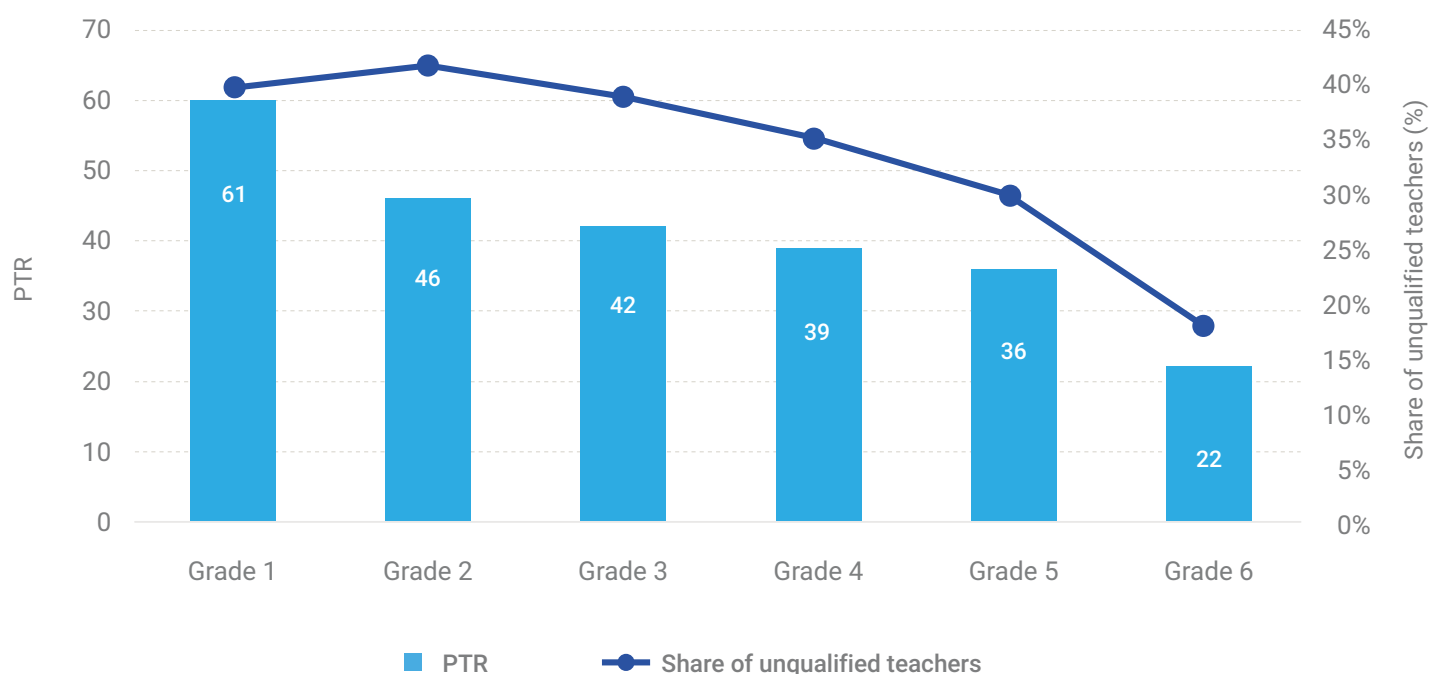
A coherence analysis by school location reinforces the conclusion that teacher supply remains weakly aligned with school needs across the system. Low coherence is not limited to a handful of exceptional cases but is instead widespread across chiefdoms: 38 chiefdoms (18 per cent) record coherence levels below 0.10, while only 8 chiefdoms (4 per cent) are above 0.90. With a national mean coherence of 0.33 and a median of 0.32, the distribution indicates that poor matching between qualified teacher allocation and student need is the norm rather than the exception. Even among chiefdoms in the relatively narrow 0.40–0.44 range, cases are spread across six different districts. Taken together, these patterns suggest that Sierra Leone’s teacher deployment challenge is not only one of shortage, but also one of persistent inefficiency in the allocation of available qualified teachers across schools and chiefdoms.

Figure 9: Plot of pupil-qualified teacher ratio and coherence, by chiefdom (2022)



3.4. Teacher distribution varies across grades within schools

Figure 10: Teacher allocation across grades (2022)



Source: Author's calculations using EMIS data (MBSSE, 2022).

Note: Includes only 837 primary schools for which grade-level data was complete.

In addition to patterns of teacher shortages and deployment across schools, the analysis of teacher supply in schools reveals opportunities to better align with student needs and learning outcomes.

In Sierra Leone, class sizes appear to be much larger in the early grades of the primary cycle, disadvantaging learners during a critical period for foundational skill acquisition. In schools with complete grade-level data, the average PTR in Grade 1 is three times that of Grade 6, falling from 61:1 in Grade 1 to 22:1 in Grade 6. In addition, the coherence coefficient, i.e., the degree to which teacher allocation responds to student enrolment is slightly lower in earlier grades of the primary cycle – R^2 of 0.17 in Grade 1 compared with 0.29 in Grade 6. (Figure 10) This pattern may be partly driven by student dropout as they progress through primary school, resulting in smaller class sizes in the higher grades. Subsequent research could analyse further coherence degrees across grades.

“They [women] are the right fit for the children because of their patience and endurance, they take care of children like their own biological children, and they don’t give the children as harsh treatment as male teachers, which are why female teachers are always assigned to the foundational classes.”

– Woman teacher,
Kono District

Interviews revealed that class assignments in Sierra Leone are typically determined at the headteacher’s discretion, often based on observations and subjective assessments of teachers’ abilities and performance. Some headteachers rotate teachers across different classes each year, although there is no standardized procedure or guidance for this practice. In some cases, class assignments are decided collectively, with input from the teachers. Headteachers reportedly also consider teachers’ qualifications and experience when making assignments. In some cases, gender may play a role in class placements, with women reportedly being assigned to lower grades due to their assumed ‘nurturing’ qualities. On the other hand, male teachers, often perceived to be more competent in teaching all subjects and to be stricter, are often assigned to older grades. Gendered class allocation is discussed in more detail in [‘Thematic research note 1: Insights for enhancing women’s representation’](#).

Challenges in learning conditions are compounded by weaker teacher qualifications in the early grades. A larger share of teachers in lower primary teach without holding a Teaching Certificate (TC), the minimum requirement. Whereas 40 per cent of Grade 1 teachers are untrained, the number for Grade 6 is 18 per cent. Limited teacher skills, combined with large class sizes in early grades, can have long-lasting negative impacts on students’ learning trajectories. Investing more effectively in the early years is key to building strong foundations, leading also to greater efficiencies throughout the education cycle.

Overcrowded classrooms in the early years undermine children’s ability to acquire the foundational skills necessary for future learning and contribute to early dropout from the education system.¹⁵ Avenues for reducing class sizes at this juncture should be explored.

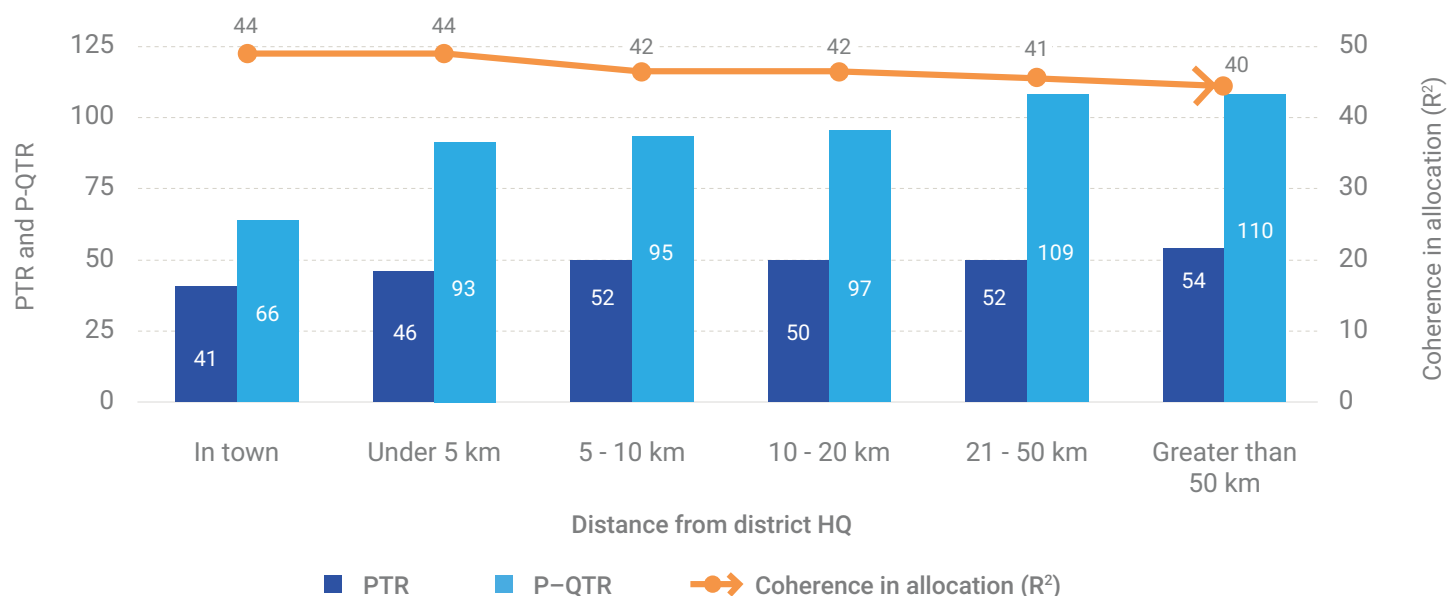
¹⁵ EMIS data show that the average enrolment was 41 and 33 learners in Grade 5 and 6, respectively – significantly smaller than the enrolment sizes of 81 and 55 in Grade 1 and 2 (MBSSE, 2022).

3.5. Teacher shortages in rural and remote schools

Teacher shortages – particularly of qualified teachers – are most severe in rural and remote schools. While urban schools are closer to MBSSE's PTR and P-QTR targets of 40:1 and 65:1, the situation worsens in peri-urban and rural areas (illustrated in *Figure 11*):

- The average PTR, which includes all teachers, increases gradually from 41:1 in urban schools to 54:1 in schools farther than 50 km from the district HQ. Regression estimates confirm this pattern showing that remote and rural schools have on average one less teacher than their urban counterparts, even after controlling for factors like infrastructure and other school-level observable characteristics.¹⁶
- The shortage of teachers in rural and remote schools is especially pronounced for qualified teachers. Schools just outside district HQ beyond 20 km away experience average P-QTRs near 100:1 and exceed 100:1.

Figure 11: Teacher allocation, by distance from district HQ (2022)



Source: Author's calculations using EMIS data (MBSSE, 2022).

Note: Includes only 5,764 government-approved primary schools (government, mission and community schools)

¹⁶ The MBSSE applies standard classifications to distinguish urban, peri-urban, rural and remote schools. Urban schools are located within town limits. Peri-urban schools are situated within 5 km of a town. Rural schools fall between 5 km and 50 km from a town, while any school located more than 50 km from the district headquarters is classified as remote.

"No electricity, the social amenities are not there and as young people after university always want to live in a big city. So those are some of the challenges we are faced with as a government."

– District MBSSE representative

"In our community, the remoteness and lack of mobile phone services often hinder people to come here as teachers. Even the distance from Koidu [main town] to here is a challenge."

– Rural headteacher, Kono District

Stakeholder interviews indicate broad agreement that rural and remote areas struggle to attract and retain teachers primarily because of inadequate living conditions. Contributing factors include limited access to electricity, housing, sanitation and the absence of essential community services such as banking and health care.¹⁷

Regression analysis confirms that basic infrastructure in remote schools¹⁸ influences teacher preferences; gender analysis reveals infrastructure gaps particularly affect women teachers (see [‘Thematic research note 1: Insights for enhancing women’s representation’](#) for details).

Controlling for school- and teacher-level characteristics, schools with boreholes or wells, sufficient toilets for men and women teachers, and a school fence were more likely to have a higher number of teachers (See *Annex 1, table 1* for details). Access to a mobile network at the school was also positively associated with the presence of more teachers, compared with otherwise similar schools lacking network coverage. These findings underscore the importance of basic infrastructure as one important input into shaping teacher preferences, which are complex, depend on many contextual factors and interact with a host of demographic characteristics (McBurnie et al., 2022).

Interviews showed that the combination of low teacher salaries and the absence of remote area allowances further discourage teachers from relocating to rural and remote communities. Both teachers and government officials reported that current salaries do not meet teachers’ basic financial needs. Without adequate remote hardship compensation, teachers have little incentive to relocate to rural areas – particularly when urban locations offer substantially better opportunities for additional income through private tutoring, supplementary teaching or other work. Teachers and headteachers, particularly those working in rural areas, underscored the need for better salary and incentive structures to attract qualified staff and ensure they could sustain themselves and their families in the locations where they teach.

¹⁷ EMIS data (MBSSE, 2022) show that schools generally have poor infrastructure. For instance, only 10 per cent of primary schools are connected to an electrical source, 5 per cent have solar units or a generator, while 85 per cent have no electricity access at all. Similarly, only 10 per cent of schools have access to piped water, 45 per cent have a borehole or well. 47 per cent of schools have no water access at all.

¹⁸ Defined by the government as those that are greater than 50 km away from the district HQ.

"[I am] looking for another job because the salaries are not encouraging. If I think of the salary government is giving me... teaching from class one to class six for the rest of the day then I'm thinking about the salary I'm handing. Then I have children I have families which I'm going to support them."

– Rural headteacher,
Bo District

Finally, for some teachers, social and familial factors can also be barriers to working in hard-to-reach locations. Interviews revealed that community acceptance can be an issue for those coming from other areas. As one district-level TSC representative noted, *"Most times, the community is supposed to embrace them and receive them well. But that is not [always] happening."* They also acknowledged that for women teachers, family obligations can significantly affect their willingness to work in rural areas, saying, *"One of the reasons [women do not go] is their marital status. Their husbands do not like them to go to the rural areas leaving them in the urban areas."*

3.6. The distribution of unqualified teachers

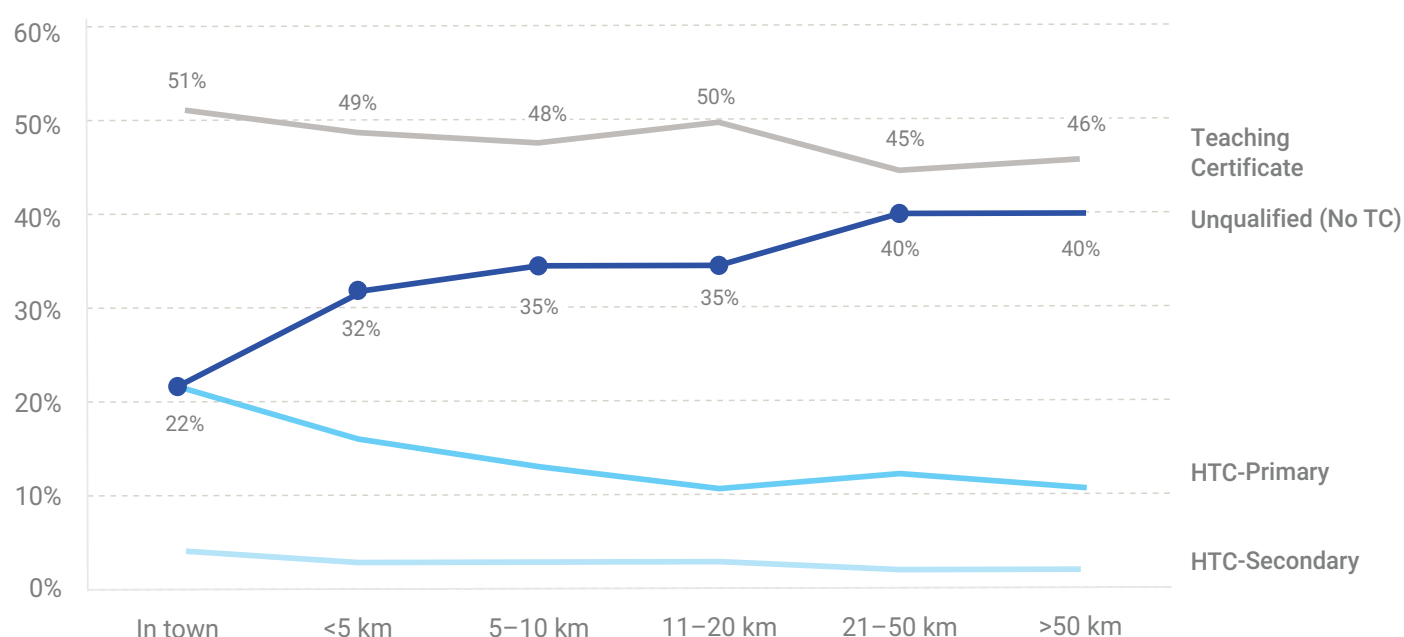
In Sierra Leone, approximately one in three teachers is not formally qualified according to current standards (Sierra Leone, 2022; see Box 4 for requirements). This reflects a complex post-war history: during and after the civil war (1991–2002), much of the education infrastructure was destroyed and formal systems for teacher recruitment, deployment and certification were severely disrupted (World Bank, 2007; UNICEF, 2011). Communities were encouraged to reopen schools independently, drawing on locally available individuals as teachers, with large-scale reconstruction efforts subsequently providing some pathways to in-service and distance training (World Bank, 2007). Subsequent crises, including the Ebola (2014–2016) epidemic and COVID-19 pandemic (2020–2023), further strained the system. As a result, a significant share of the workforce entered the profession without formal preparation and predates (or falls outside) the formalized requirements now set by TSC (Sierra Leone, 2022; UNICEF, 2025).

Although unqualified teachers are present nationwide, they are disproportionately concentrated in rural and remote areas.¹⁹ Across the country, 39 per cent of teachers in rural schools and 40 per cent in remote schools do not hold a TC, compared with 22 per cent in urban schools. Indeed, in one out of every four rural schools, most of the teachers (over 50 per cent) are not officially qualified to teach.

¹⁹ Urban schools are those within 0–5 km from district HQs. Rural schools are categorized as those that are located between 5 and 50 km away from the district HQ, whereas schools greater than 50 km away from the district HQ are considered remote schools.

Figure 12A illustrates how the share of certified teachers steadily decreases with distance from district headquarters, while the proportion of unqualified teachers rises sharply in remote schools, increasing from 22 per cent in urban schools, to 32 per cent in peri-urban areas and 40 per cent in schools located more than 50 kilometres away. Primary teachers with a Higher Teachers' Certificate (HTC) also decline markedly with distance, and secondary teachers with an HTC are nearly absent across all locations.

Figure 12A: Teacher qualifications by distance from district HQ (2022)

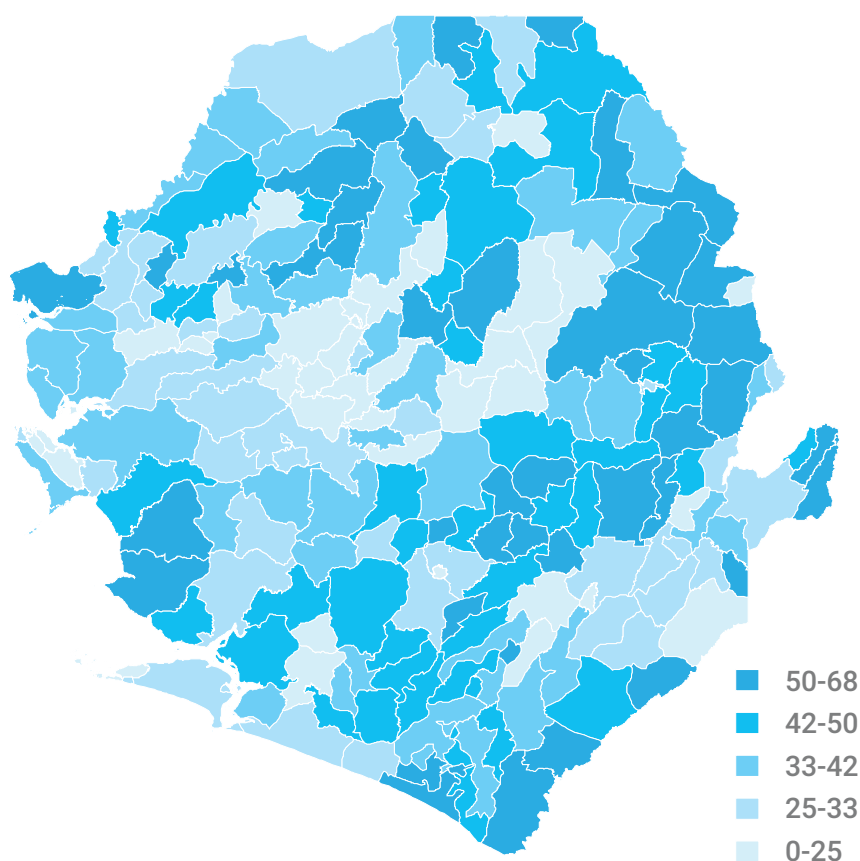


Source: Author's calculations using EMIS data (MBSSE, 2022). Only includes approved, government-assisted schools.

Figure 12B, a spatial analysis, shows substantial geographic variation in the share of unqualified teachers across the territory, with darker areas indicating chiefdoms where over 50 per cent of teachers lack formal qualifications. Outer districts in the north-east have the highest proportion of unqualified teachers. In Falaba, Kono, Moyamba and Pujehun districts, nearly half the teachers are unqualified.²⁰ Moreover, this lack of qualified teachers is further concentrated in specific chiefdoms, highlighting pronounced spatial inequities: the most remote and hard-to-staff areas rely most heavily on unqualified teachers, compounding existing challenges to improve foundational learning outcomes in underserved territories.

²⁰ The proportions are 48 per cent in Pujehun, 46 per cent in Falaba, and 39 per cent in Kono and Moyamba.

Figure 12B: Share of unqualified teachers, by chiefdom (2022)



Note: Darker colours indicate greater percentage.

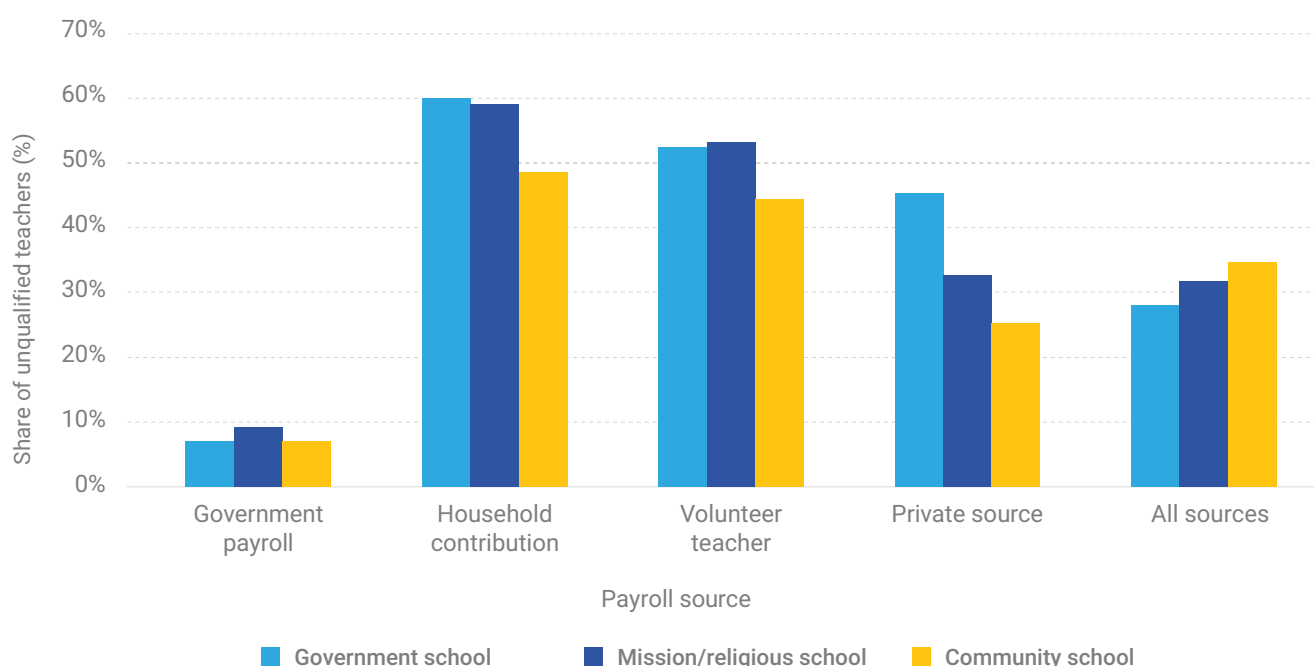
Source: EMIS data (MBSSE, 2022)

Teachers outside the government payroll are more likely to be unqualified, which is expected given current TSC regulations. Almost all teachers recruited and paid by MBSSE/TSC possess minimum teaching credentials, regardless of the type of school in which they serve.²¹ Indeed, minimum qualifications and licensure are preconditions for receiving government payroll support. In contrast, over half (51 per cent) of the teachers outside the public payroll lack formal teaching qualifications (*Figure 13*). For instance, in government and mission schools, over 50 per cent of teachers paid by households or working voluntarily are doing so without the TSC-mandated minimum qualifications (i.e., TC).

²¹ However, prior to new TSC regulations for minimum teacher qualifications, about 8 per cent of government schoolteachers were absorbed into the public payroll and remain officially unqualified.

The reliance on volunteer teachers may limit the urgency for hiring fully qualified staff. As well as lacking the required teacher training upon entering the system, many volunteer teachers do not receive updates on new curricula, teaching materials or training programmes opportunities to upgrade content knowledge or their pedagogical skills (TSC, 2019). In the past, the availability of volunteer teachers in classrooms reduced the urgency of school leaders to recruit new, qualified teachers (Gutierrez Bernal et al., 2021). At the same time, many qualified educators often pursued more lucrative opportunities outside the profession, reducing the supply of skilled teachers (ibid). Recognizing this vicious cycle, MBSSE and TSC have scaled up efforts to train, upskill and license unqualified teachers (see [‘Thematic research note 2: Managing and formalizing Sierra Leone’s volunteer teachers’](#)).

Figure 13: Share of unqualified teachers, by payroll source and school type (2022)



Source: Author's calculations using EMIS data (MBSSE, 2022). Only includes approved, government-assisted schools.



CHAPTER 4

The influence of teacher deployment on foundational learning

4.1. Learning outcomes at the primary level

A range of learning assessments underscores low levels of learning at the primary level. The latest Multiple Indicator Cluster Survey foundational learning assessment found that only one in eight children aged 7–14 could read a simple text (Statistics Sierra Leone and UNICEF, 2017). Low learning outcomes were reaffirmed by the MBSSE's 2021 early grade assessment,²² which found that 73 per cent of Grade 2 students and 62 per cent of Grade 4 students had a literacy and reading comprehension score of zero (UNICEF et al., 2021; World Bank, 2023).

²² The Early Grade Reading Assessment 2021 was conducted in 260 schools across all 16 districts of the country to understand and address systemic issues at the school, district and national levels affecting children's learning.

The NPSE, taken in the final grade of primary school, reveals that school location and type partly explain foundational learning

outcomes.²³ While average pass rates on the NPSE are relatively high (80 per cent), this is partly driven by the fact that the pupils with the lowest outcomes generally drop out before they reach the end of the primary cycle.²⁴ For the learners that do take the exam, multivariate regression analysis reveals that schools in rural (located between 5 and 50 km from the district HQ) and remote areas (located more than 50 km from a district HQ) score 0.4 and 0.8 T-score points lower than urban schools, all other observable school-level and teacher-level factors held constant.²⁵ Moreover, among comparable schools, government schools score 0.5 and 1.1 T-score points lower than mission/religious and community schools, all else held constant (see Box 5 for a summary of regression results, and Annex 3 for detailed breakdown of results for NPSE T-scores).²⁶

Learning outcomes are shaped by a range of community, family and social factors. However, the quality and placement of the teaching force is a key contributor. Poorly prepared and supported teachers, frequently faced with large and overcrowded classrooms, contribute to undermining learning conditions (Sierra Leone, 2022). Better understanding the full scope of the challenges related to teacher preparation, deployment and management can help inform a more effective allocation of resources and guide targeted policy responses. These challenges are further explored below.

23 The NPSE was introduced to standardize the assessment process and determine the transition to secondary school. Students take exams in five subjects: Quantitative Analysis, Verbal Aptitude, Mathematics, English Language and General Science. In each subject, students can get a maximum score of 100 and a combined total score of 500 across all subjects. Pass rate is defined as the share of learners that score above 230 out of 500.

24 Recent surveys suggest the completion rate in primary is only 64 per cent. As a result, NPSE scores are biased upwards and do not represent the entire student population (Statistics Sierra Leone and UNICEF, 2017).

25 NPSE scores are reported on a T-scale by MBSSE, which is a type of standardized score where learners have a mean average of 50 with a standard deviation of 9. T-scores reflect a learner's rank compared with others and indicate how far above or below a learner is.

26 These findings are based on the subset of schools with matched NPSE and EMIS data and may therefore not be representative of all schools nationally.

Factors associated with learning outcomes

Regression analysis highlights selected school-level correlates of learning outcomes, distinguishing some of the factors associated with NPSE T-scores, while controlling for other observable school and teacher characteristics, with chiefdom fixed effects and robust standard errors.

The following school-level factors show statistically significant associations with exam scores:

1. **School infrastructure:** physical conditions and access to basic services are associated with learning conditions, especially in rural and remote areas. In particular:
 - **Electricity:** Access to different electricity sources is differentially associated with exam results in rural and urban schools. For instance, schools equipped with solar units are associated with a 0.7-point increase, driven largely by urban schools (+0.9 points increase). However, access to the grid is negatively associated with learning in urban schools (-1 T-score points) and positively in remote areas (+0.9 points). These contrasting patterns are not straightforward to interpret and may reflect differences in service reliability, infrastructure functionality or other unobserved school characteristics.
 - **Water and sanitation:** The presence of a water source (e.g., boreholes, wells and piped water) and handwashing facilities are associated with small increases in NPSE T-scores (about +0.1 points in each case)
 - **Building infrastructure:** Teacher housing has a positive correlation with NPSE T-scores (+0.2 points), with a stronger association in remote areas (+0.8 points).
 - **Connectivity:** Access to a mobile network is positively associated with NPSE T-scores in urban schools (+0.8 points) but this trend reverses in rural and remote schools. These differences may reflect variation in how connectivity is accessed, used or translated into school-level benefits.
 - **School feeding:** The presence of a school feeding programme is associated with a 0.4-point increase in NPSE scores, holding other observed factors constant.
2. **Women teachers:** A higher proportion of women teachers in a school is associated with higher NPSE scores (+1.5 points), particularly in rural and remote schools.

These findings should be interpreted with caution. Regression models based on ASC data (MBSSE, 2022) are limited by the absence of socio-economic information on learners, households and communities. As a result, important background factors that may shape learning outcomes

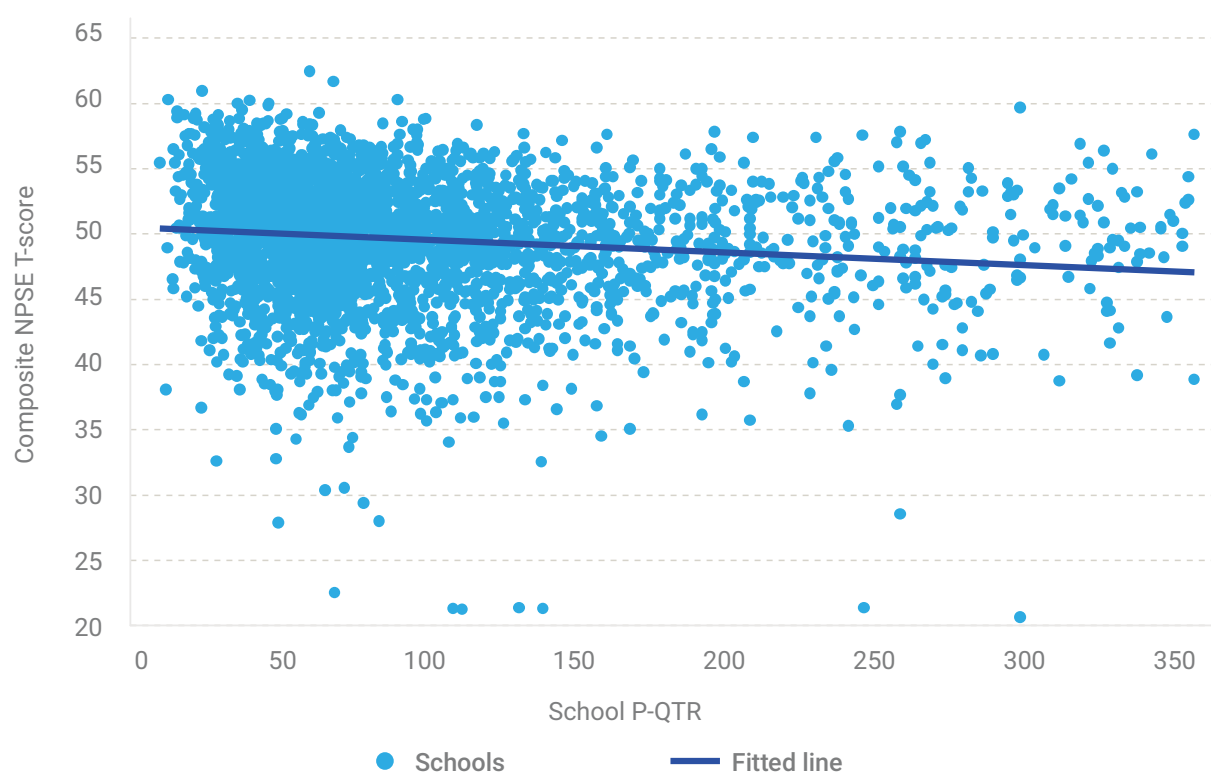
are not captured in the analysis and omitted-variable bias remains a concern. The relatively low adjusted R-squared values reported in Annex 3 indicate that these models explain only a modest share of the variation in learning outcomes and should therefore be interpreted as identifying partial associations rather than providing a complete account of the factors shaping student performance.

4.2. Classroom size and learning outcomes

Large average PTRs contribute to exacerbating poor learning conditions.

An overcrowded classroom makes it extremely challenging to teach, even for the most qualified, skilled and motivated teachers. This challenge is particularly salient in earlier grades, where children require more attention and are developing foundational competencies.

Figure 14: Correlation between school P-QTR and composite NPSE score (2022)



Source: Author's calculations using EMIS data (MBSSE, 2022).

Note: Graph illustrates the negative relationship between average NPSE T-scores and P-QTR. Sample includes 3,144 government-approved schools that have a West African Examinations Council (WAEC) code. Graph is based on simple correlation without controls, but regression analysis (with controls) confirms this relationship.

In Sierra Leone's classrooms, the number of learners per qualified teacher in a school is negatively related to learning outcomes, measures as scores in the NPSE (Figure 14).²⁷ A regression model analysing the association between P-QTRs and composite NPSE scores at the school level showed that a 10-pupil increase per qualified teacher is associated with a 0.1-point drop in NPSE T-scores.

The drop in learning is substantially larger in schools with fewer trained and qualified teachers. In the segment of schools with a P-QTR above MBSSE's target of 65:1, for instance, an additional 10 pupils are associated with a 5-percentage-point drop in the NPSE T-scores, highlighting the importance of prioritizing class size reduction in overcrowded schools.

The global evidence on class sizes remains a subject of ongoing research, but there is general agreement that a reasonable class size contributes to better learning conditions. While smaller class sizes are broadly related to improved student outcomes, benefits must be weighed against the fiscal implications associated with hiring additional teachers (Akyeampong et al., 2023). That being said, regional evidence from Africa suggests that large class sizes are a binding constraint for learning, and effectively managing them – either by reducing sizes, better training teachers or other measures – must remain a policy priority. In sub-Saharan Africa, one study identified a ratio of no more than 50 pupils per teacher as one of six essential conditions for effective teaching and learning, drawing on data from the Programme d'Analyse des Systèmes Éducatifs de la CONFEMEN and the Southern and Eastern Africa Consortium for Monitoring Education Quality (Bashir et al., 2018). Prioritizing appropriate class sizes is especially important in the early stages of primary school, when younger children acquire critical foundational literacy and numeracy (Education Endowment Foundation, 2023).

²⁷ Multivariate regression analysis was conducted at the student level with robust standard errors and chiefdom-level fixed effects, weighted by school size. The regression models were run for both P-QTR and PTR, with similar results. Models control for contextual variables available in the EMIS data and aligned with education theory, including school location, school infrastructure, share of female teachers and students, and teacher qualifications. However, the models do not include other factors that influence learning such as the socio-economic status of learners or families as these data points are not present in EMIS, a limitation of the analysis. The sample was created by merging data from 2022 NPSE scores with 2022 EMIS data and only includes schools for which a WAEC code was available and thus may not be representative of all schools. See Annex 3, table A2 for full regression table.

Overcrowded classes pose challenges for teachers as well as learners.

While reducing class sizes isn't a silver bullet, it is often a necessary (if not sufficient) factor to improve learning experience and outcomes. Large class sizes increase teacher workload, negatively impacting well-being and job satisfaction, and are correlated with teacher absenteeism (Organisation for Economic Co-operation and Development, 2020). On the contrary, reasonable classes create the enabling conditions for more effective instructional practices – including frequently checking for understanding and targeting pedagogical practices and curriculum to existing competency levels Nwokeocha et al., 2023.

4.3. Teacher quality and learning outcomes

While 70 per cent of all teachers in the education system are officially qualified, holding minimum credentials has not guaranteed classroom readiness. Recent evaluations show that even qualified teachers struggle with the primary school curriculum (Mackintosh et al., 2020b; Gutierrez Bernal et al., 2021). Specifically, a 2021 early-grade learning assessment found that many of the country's teachers have difficulties completing assessments designed for the grades they teach. The World Bank's teacher quality study documented specific subject-matter deficits: 14 per cent of teachers could not spell a simple word, 23 per cent could not subtract double digits, and only 50 per cent could solve basic mathematics word problems (Gutierrez Bernal et al., 2021).

The challenge is compounded for those without any formal qualifications, including most volunteers. These teachers often lack the pedagogical skills and content knowledge to deliver effective instruction, manage classrooms and assess student progress (UNICEF et al., 2021; Sierra Leone, 2022). Regression analysis (*Box 6*) confirms the consequence: a higher share of unqualified teachers in rural schools is associated with lower NPSE scores, all other observable factors held constant – a pattern consistent with findings from other countries in the T4A research.

The government recognizes the need to upgrade qualifications for teachers certified before the 2020 upgrade in standards.

A 2020 policy framework marked a shift from credential-based to competency-based teacher qualification (TSC, 2020b; TSC, 2020c). Cabinet-approved policies established a four-tier career progression structure (New Teacher, Proficient Teacher, Highly Accomplished Teacher, Distinguished Teacher) requiring demonstrated competency across professional knowledge, practice and engagement rather than tenure alone (TSC, 2020c).

Central-level government interviews highlighted the importance of continuous professional development programmes for supporting teachers certified prior to 2020. One MBSSE representative noted that, *“TSC has done a lot of [continuous professional development] training for them... nobody’s denied his right to go and improve.”* This aligns with the recognition that teachers must now be registered and licensed to meet professional standards and benefit from continuous development (TSC, 2020c).

While the interviews did not reveal a standardized pathway for enhancing qualifications, MBSSE and TSC emphasized the need to ensure that teachers receive the necessary support and training tailored to their specific requirements. At the time of data collection, TSC was in the process of appointing a Director of Teacher Professional Development and Performance – a role described by one central-level MBSSE respondent as pivotal for ensuring that school-level needs, particularly at the primary level, are met, stating that *“...the Director should actually liaise a lot with schools and become aware of the needs of those teachers [not yet compliant with the updated standards].”*

Existing research and government assessments indicate that Sierra Leone’s current pre-service teacher training system may not adequately prepare new teachers for the workforce and continues to face several systemic challenges, including:

- **weak quality assurance standards across the teacher training pipeline.** Lenient entry requirements for Teacher Training Colleges (TTCs) mean that in many cases, TC programmes are available to those who have only “attempted the West African Secondary School Certificate

Examination,”²⁸ and have not necessarily passed this end-of-secondary school exam (United Nations Educational, Scientific and Cultural Organization, 2023). This leniency allows underqualified individuals to enter and complete teacher training without demonstrating the foundational skills needed, reducing the overall quality of the teaching workforce.

- **weak governance and oversight of teacher training operations.**

Since the University Act 2021, the number of institutions providing teacher training has grown, but the capacity of MBSSE to oversee teacher training has not kept pace. The oversight of the TTC system is spread across TSC, the Ministry of Technical and Higher Education and the National Council for Technical, Vocational and Other Academic Award, and this fragmentation is believed to cause overlapping responsibilities and unclear accountability (Nwokeocha et al., 2023). A recent survey found that a quarter of teachers felt their pre-service education did not adequately prepare them with the practical skills needed to plan and deliver lessons, which are often in overcrowded classrooms with diverse student needs (ibid).

- **ad hoc in-service training solutions.** In addition, NGOs and private providers run in-service training programmes independently, resulting in ad hoc and fragmented efforts to provide support to teachers who are already deployed (Gutierrez Bernal et al., 2021).

28 Teacher certificate entry thresholds vary across institutions. For example, Njala University requires two West African Secondary School Certificate Examination credits (compared with five for degrees), while EBKUST requires three for certificates. Though TSC guidelines reference West African Secondary School Certificate Examination “with the required marks” for TC programmes, no specific threshold is explicitly defined (TSC, 2019), suggesting flexible interpretation and allowing applicants with minimal passing grades to qualify for teacher training.



CHAPTER 5

Conclusions and policy recommendations for MBSSE and TSC

Sierra Leone's teacher challenge is not simply a shortage problem. The national PTR sits close to international benchmarks, yet this figure conceals deep inequities in how teachers (particularly qualified teachers) are distributed. Rural and remote schools experience the severest shortfalls, early grades are the most overcrowded and the least prepared teachers are concentrated where learning conditions are critical.

This is the result of a system under strain. Rapid post-conflict and post-epidemic recruitment expanded the workforce without the governance architecture to deploy it equitably, leaving TSC with limited levers to correct imbalances across a complex, multi-provider landscape. Qualification alone has not been sufficient to guarantee learning outcomes; many teachers who hold minimum credentials still lack the subject knowledge and pedagogical skills that effective foundational instruction requires.

The key findings point to 1) more strategic use of existing teacher resources through evidence-based deployment, 2) targeted incentives to attract and retain qualified teachers in underserved schools and 3) sustained investment in instructional quality, particularly in the early grades where the foundations for all future learning are built. Below are recommended actions for MBSSE and TSC.

1. Target existing resources more efficiently to improve learning conditions in classrooms.

A complex education landscape – spanning multiple service providers, payroll modalities and fiscal constraints – has strained TSC’s nascent administrative capacity and contributed to unbalanced teacher deployment that is both inequitable and inefficient. To make optimal use of the teachers in the education system, stronger workforce planning, deployment and management will require leveraging the emerging data ecosystem in Sierra Leone to ensure limited resources are targeted effectively towards improving learning conditions. To do this, MBSSE and TSC should:



- **pilot and strengthen teacher deployment protocols**, in the short term, that leverage ASC data as well as teacher preferences, targeting deployment to the most underresourced schools. Closely piloting, iterating and evaluating during implementation can provide lessons to improve implementation.



- **invest in the existing teacher pool.** It will be important for TSC to balance new recruitments with the regularization of qualified volunteer teachers onto the payroll. To better support retention in hard-to-staff schools, payroll support should be prioritized in mission and community schools in outer districts where teachers are primarily drawn from local communities. Additional teacher salary support from development partners (outside the payroll) should also be leveraged strategically in schools with the greatest need.



- **strengthen data-collection systems to provide timely and reliable data.** In the medium term, improving the quality of data will be key to producing actionable insights that drive planning and decision-making. MBSSE should strengthen ASC data-collection protocols to improve the quality and reliability of field data and ensure timely data collection from all 16 districts. Integrating and cross-referencing ASC data with other education monitoring platforms can also improve data consistency as well as strengthening

overall workforce management (see Box 6). In addition, targeted capacity-building for district-level TSC staff and school leaders can deepen their understanding of the ASC's role in education planning and teacher allocation, fostering a culture of data-driven decision-making at the lower levels of government.

BOX 6

Spotlight on Senegal: Leveraging administrative data to inform teacher allocation

MIRADOR, Senegal's human resource management information system, is an integrated workforce management system developed in consultation with teacher unions. The system serves as a human resource database for education planners, but also allows teachers to manage their careers, including requesting transfers or further training or professional development.

To improve teacher deployment, an algorithm tracks and analyses teacher positions and postings in real time, identifying teacher deficits and surpluses at the school level. It feeds this information and creates alerts for administrators at key decision points during the policy cycle. In addition to improving transparency and efficiency of workforce management, MIRADOR is widely viewed as having contributed to improving the distribution of teachers across Senegal, including addressing teacher needs in previously underserved areas. Human resource management information systems like MIRADOR underscore the need to generate timely and accurate data for policymakers, but also to integrate information systems into the policy cycle and decision-making process.

Source: Author's summary based on United Nations Educational, Scientific and Cultural Organization, and African Union (2023).

2. Implement targeted interventions to attract and retain qualified teachers in rural and remote schools.

Although the national PTR is close to global norms, significant disparities exist: rural and remote schools face the most pronounced shortages of qualified teachers. In addition, larger class sizes in these areas and in earlier grades compound learning disadvantages during a critical window for acquiring foundational literacy and numeracy. To address this challenge MBSSE and TSC should strive to:



- **strengthen intersectoral collaboration to enhance school infrastructure.** Addressing infrastructure deficits can create a more conducive teaching environment. Early evidence suggests that installing solar power units, providing water through boreholes or wells and improving mobile connectivity can enhance the appeal of schools in underserved areas.
- **create targeted incentives for teachers in the most remote schools.** Evidence suggests that monetary incentives can play a key role in addressing teacher shortages in hard-to-staff locations. MBSSE and TSC may consider targeted financial incentives attached to selected schools that are the most remote, in addition to non-financial incentives that make positions in remote or underprivileged areas more attractive. These may include:
 - **establishing recognition awards** to acknowledge and celebrate the achievements of teachers, which can boost morale and job satisfaction.²⁹
 - **providing formalized career development opportunities** linked to service in hard-to-staff areas, which can incentivize teachers to stay in challenging locations. For instance, teacher training scholarships or other incentives linked to a few mandatory years of service in remote schools.³⁰

²⁹ Recognition was highlighted as a significant non-monetary factor influencing job satisfaction among teachers in the United Republic of Tanzania. Teachers agreed that recognition from students and supervisors and respect for their rights were essential for their motivation and job satisfaction (Nzowa, 2020; Kassim and Onyango, 2022). In Guinea, recognition rewards were found to particularly benefit women teachers, boosting their morale and job satisfaction (Barrera-Orsorio et al., 2022).

³⁰ In the United Republic of Tanzania, career and professional growth opportunities were found to be crucial non-monetary factors that influenced teachers' motivation and job satisfaction (Kassim and Onyango 2022). In China, nationally affiliated teacher preparation colleges offer free tuition and stipends to students who commit to teaching for at least two years in rural areas and staying in the profession for over 10 years (Liang, Kidwai and Zhang 2016).

- **promoting service in rural schools as a public duty**, which can enhance the sense of purpose and commitment among teachers.³¹
- **deploying teachers in pairs**, i.e., teachers who have trained together, which can provide mutual support and increase retention rates in rural areas.³²

3. Continue efforts to support teachers in improving classroom practices.

Sierra Leone's foundational learning crisis is closely linked to challenges in teacher quality, deployment and classroom readiness. Addressing class size and allocation imbalances alone will not close learning gaps; pedagogical support is an essential complement to allocation reform. Sierra Leone is making significant strides in this area. In 2024, MBSSE and TSC (with support from UNICEF and GPE) launched a large-scale training plan to strengthen the pedagogical skills of teachers and school leaders from Grades 1 to 4 nationwide (Rahman, 2024). This effort places emphasis on structured pedagogy, identified as a "great buy" by the Global Education Evidence Advisory Panel (Diallo et al., 2025). The findings of this T4A Sierra Leone study reinforce the need to sustain and extend this work. Continued progress should include:



- **aligning deployment policy with national training plans.**

Emerging evidence from Sierra Leone shows that in-person training at scale can be effective in improving teacher knowledge (Valenza et al., 2025). However, sustaining these gains requires keeping pace with a dynamic and growing workforce. Large-scale national trainings are unlikely to happen frequently enough to reach every recruit, underscoring the need for deployment policies that prioritize placing trained teachers in early-grade classrooms. MBSSE has already taken steps in this direction, with 56 per cent of 2,000 new teacher positions in 2024/2025 allocated to disadvantaged

31 Framing service in rural schools as a public duty can enhance the sense of purpose and commitment among teachers. The Altruistic Identity treatment tested in Peru involved priming teachers' altruistic identities through introspection exercises, text messages and online pop-ups. This approach was found to be effective in increasing the likelihood of teachers applying to and being assigned to disadvantaged schools, particularly among high-performing teachers (Ajzenman et al., 2024)

32 In Ghana, pairs of teachers who trained together and were posted to remote schools increased their take-up of rural posts by sharing accommodation and supporting each other, reducing feelings of isolation and enhancing retention (Hedges, 2002).



districts (GPE, 2025) – a commitment that is most effective when the teachers allocated to these schools are also among those trained in structured pedagogy and foundational learning approaches.

- **strengthening decentralized coaching and in-service support for untrained teachers.** Given that one third of teachers currently lack qualifications, supporting the existing cadre of untrained teachers already in classrooms is essential. Evidence from the structured pedagogy roll-out points to a promising solution: engaging headteachers and district education officers (who consistently demonstrated stronger content knowledge than classroom teachers) to provide ongoing, localized coaching – working around school timetables and building ownership at the school level (Valenza et al., 2025). This decentralized approach is particularly well-suited to reaching teachers in remote and underserved schools, where qualification gaps are most acute. Civil society partners have demonstrated capacity to complement these efforts and address remaining capacity constraints within MBSSE and TSC.

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Annexes

Annex 1: Quantitative metrics and data sources

The research focuses on analysing two main quantitative metrics as a proxy of teacher deployment:

- **Pupil-Qualified-Teacher Ratio (P-QTR):** captures the average number of pupils per qualified teacher and broadly reflects learning conditions in a classroom. Going beyond the national PTR metric, calculating the P-QTR at the lower administrative levels enables policymakers to compare teacher allocation in relation to policy goals, as well as across geographical areas, to inform policy actions.
- **Degree of coherence (measured through R^2):** measures the strength of the relationship between the number of teachers and pupil enrolments in a school. It is based on the principle that the number of pupils in a school should be proportional with – and explain the variation in – the number of teachers. Conversely, the inequitable allocation of teachers implies the number of teachers is not explained by the number of pupils enrolled (referred to in the literature as degree of randomness) (Nkengne and Marin, 2018) and instead influenced by external factors.

To conduct the analysis, the project draws on **two sources of quantitative data** to produce descriptive statistics disaggregated at the district and chiefdom levels, and illustrate geographical patterns in teacher deployment:

- **Educational Management Information System (EMIS)** data. The Annual School Census (ASC) collects data on schools, students, teachers and infrastructure across all schools in the country, and aims to provide statistics to inform education policy and programmes (Ministry of Basic and Senior Secondary Education, 2022).
- **National Primary School Examinations (NPSE) from 2022** is a high stakes standardized test administered at the end of the primary and secondary school year to determine whether students can transition to secondary school.

Moreover, multivariate regressions models (with district- and chiefdom-level fixed effects) were used to identify correlates of staffing numbers in schools (to better understand deployment), as well as estimating the association between learning outcomes and the P-QTR. Estimated models are detailed in the annexes below with full tables of results.

Annex 2: Multivariate regression results (number of teachers)

Multivariate regression techniques were used to analyse teacher supply (number of teachers) and teacher tenure in schools. The following regression model was estimated:

$$Y_i = \beta_0 + \beta_1 Teacher_i + \beta_2 School_i + \beta_3 Other_i + \beta_4 District_i + \varepsilon$$

where:

Y_i represents the number of teachers in school i (different subsamples were used – see below) or teacher tenure in school i (the number of years the teacher was in a given school)

$Teacher_i$ is a set of variables representing the average teacher characteristics for school i

$School_i$ is a set of variables representing school-level characteristics for school i

$Other_i$ is a set of variables representing other contextual information for school i

$District_i$ are unobserved time-invariant heterogeneities across each district l in which school i is located (district fixed effects)

ε is the non-stochastic error term

Multivariate regression analysis at the **school level** with robust standard errors and district-level fixed effects, weighted by school size. Regression models were run for separate subsamples for all teachers, women teachers, women teachers from rural schools only and women teachers from remote schools only. The regression models control for contextual variables available in ASC, including school location, school infrastructure and teacher profiles.

Table A1: Factors associated with the number of teachers in primary schools in Sierra Leone

	All teachers	All teachers (remote schools only)	Men teachers			Women teachers			Average teacher tenure in a school (years)
			All men	Men (rural & remote schools)	Men (remote schools only)	All women	Women (rural & remote schools)	Women (remote schools only)	
School size									
Total pupils	0.010***	0.010***	0.006***	0.006***	0.007***	0.004***	0.003***	0.003***	0
School type (reference category: Government)									
Community	-0.033	0.357	-0.110	-0.226	0.140	0.077	0.216*	0.217	-0.948***
Mission/religious group	0.134	0.157	0.110	0.085	0.145	0.024	0.067	0.013	-0.105
Private	0.976***	1.508**	0.806***	0.763***	1.729***	0.171	0.351*	-0.221	-0.583*
School location (reference category: urban)									
Rural	-1.229***	-	-0.365***	0.069		-0.863***	0.246***		0.363**
Remote	-1.545***	-	-0.421***			-1.125***			0.555***
Approval status (reference category: Not approved)									
Approved	0.303***	0.581***	0.075	0.230**	0.435***	0.228***	0.161**	0.146*	0.294*
Electricity (reference category: No electricity)									
Generator	0.589	-0.298	0.321	0.109	-1.294*	0.267	-0.061	0.996	-0.263
Grid	0.240	0.281	0.016	0.241	0.046	0.224	-0.044	0.234	-0.373
Solar	0.187	0.474	0.006	0.140	0.209	0.180	0.304*	0.266	-0.325
Water access (reference category: No water)									
Borehole	0.571***	0.345*	0.314***	0.157*	0.157	0.257***	0.165**	0.187*	0.209
Piped	0.195	-0.038	0.029	0.033	-0.210	0.166	0.008	0.172	0.247
River/tank/other	0.071	0.141	0.107	0.003	-0.046	-0.036	0.041	0.186	-0.538
Well	0.416***	0.470**	0.197*	0.089	0.247*	0.220**	0.141*	0.224**	-0.070
School infrastructure									
Handwashing facilities	0.146	0.108	0.129*	0.153**	0.094	0.017	0.018	0.014	0.074
Male toilet-teacher ratio	0.104***	0.046	0.389***	0.279***	0.242***	-0.286***	-0.236***	-0.196***	-0.017
Female toilet-teacher ratio	0.359***	0.529***	-0.307***	-0.235***	-0.279***	0.667***	0.804***	0.808***	0.087***

Table A1 (Continued): Factors associated with the number of teachers in primary schools in Sierra Leone

	All teachers	All teachers (remote schools only)	Men teachers			Women teachers			Average teacher tenure in a school (years)
			All men	Men (rural & remote schools)	Men (remote schools only)	All women	Women (rural & remote schools)	Women (remote schools only)	
School infrastructure									
School fence present	0.339*	0.327	0.194	0.235	0.304	0.145	0.203	0.023	0.072
School feeding present	-0.160	-0.013	0.132*	0.195**	0.062	-0.293***	-0.063	-0.075	0.171
Teacher housing present	0.079	0.047	0.015	0.053	-0.147	0.064	0.058	0.194	0.273
Mobile network present	0.393***	0.294*	0.224**	0.326***	0.157	0.170**	0.185***	0.136*	0.232
Gender-based violence redressal	0.115	0.068	0.028	0.093	0.016	0.087	0.120*	0.052	-0.262*
Teacher characteristics									
Share of teachers on government payroll	0.009***	0.003	0.001	0.003**	0.002	0.007***	0.002*	0.001	0.074***
Share of unqualified teachers	-0.002	0.002	0.003***	0.004***	0.004*	-0.005***	-0.003***	-0.002	-0.015***
Total teachers									-0.041
District fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Constant	2.831***	1.119***	1.713***	1.090***	1.081***	1.118***	-0.122	0.039	7.889***
R-squared	0.661	0.600	0.456	0.410	0.415	0.723	0.685	0.682	0.446
Schools	7438	1789.000	7438	5054	1789	7438	5054	1789	7438

Note: * p<0.01 ** p<0.05 ***p<0.001

Annex 3: Multivariate regression results (learning outcomes)

Multivariate regression techniques were used to analyse student learning outcomes at the end of primary schooling. The following regression model was estimated:

$$Y_{ij} = \beta_0 + \beta_1 \mathbf{Teacher}_j + \beta_2 \mathbf{School}_j + \beta_3 \mathbf{Other}_j + \beta_4 \mathbf{Chiefdom}_l + \epsilon$$

where:

Y_{ij} represents the NPSE T-score for student i in school j . The T-score is a statistical measure indicating how far a student's exam score is from the mean of the t-distribution of exam scores. It is expressed in terms of standard deviations

$\mathbf{Teacher}_j$ is a set of variables representing the average teacher characteristics for school j

$\mathbf{School}_j$ is a set of variables representing school-level characteristics for school j

$\mathbf{Other}_j$ is a set of variables representing other contextual information for school j

$\mathbf{Chiefdom}_l$ are unobserved time-invariant heterogeneities across each chiefdom l in which school j is located (chiefdom fixed effects)

ϵ is the stochastic error term

Multivariate regression analysis was conducted at the student level with robust standard errors and chiefdom-level fixed effects, weighted by school size. The main sample of all students includes 116,660 students (from 3,144 government-approved schools that have a West African Examinations Council [WAEC] code). The regression models were run for both P-QTR and the Pupil-Teacher Ratio (PTR), with similar results. The sample was created by merging data from 2022 NPSE scores with EMIS data (MBSSE, 2022) and only includes schools for which a WAEC code was available and thus may not be representative of all schools.

Table A2: Factors associated with NPSE scores in primary schools in Sierra Leone

	All learners	Male learners	Female learners	Urban learners	Rural learners	Remote learners
P-QTR (for 10 learners)	-0.077***	-0.072***	-0.068***	-0.199***	-0.002	0.026
School type (reference category: Government)						
Mission/religious	0.542***	0.327***	0.376***	0.607***	0.180*	0.667***
Community	1.083***	0.396*	0.697***	1.058***	-0.294	-1.453**
School location (reference category: Urban)						
Rural	-0.419***	-0.366***	-0.471***		0.596***	
Remote	-0.841***	-1.012***	-0.630***			
School approval						
Approved	0.096	-0.518*	0.505*	-0.054	0.122	0.19
Electricity access (reference category: No electricity)						
Generator	-0.212**	-0.811**	-0.606*	-0.364	-0.801*	
Grid	-1.377***	-0.806***	-0.987***	-1.009***	-0.457*	0.948**
Solar	0.666***	0.703***	0.511**	0.934***	0.483***	0.012
Water and sanitation						
Access to water (any source)	0.092**	0.039	-0.084	0.001	-0.183*	0.259
Handwashing facilities	0.079**	-0.128	-0.145	0.094	-0.227**	-1.169***
School infrastructure						
School fence	-0.063*	0.207*	0.153	-0.065	0.728***	2.476***
School feeding	0.429***	0.769***	0.500**	0.672***	0.553***	-0.568*
Proportion of solid material classrooms	0.029	0.469***	0.567***	0.844***	0.449***	0.415*
Teacher housing	0.175***	0.333**	0.09	0.063	0.557***	0.755***
School management Committee present	0.073	-0.584***	-1.003***	-0.799***	-0.608**	-1.153**
Mobile network access	-0.251***	0.365*	0.243	0.809***	-0.425**	-0.934***
Teacher characteristics						
Proportion of women teachers	1.490***	1.951***	1.794***	2.440***	1.969***	2.655***
Proportion of payroll teachers	-0.058	0.015	-0.545***	-0.704***	0.171	-0.684*

Table A2 (Continued): Factors associated with NPSE scores in primary schools in Sierra Leone

	All learners	Male learners	Female learners	Urban learners	Rural learners	Remote learners
Proportion of unqualified teachers	0.842***	0.322	-0.442	1.764***	-0.879***	-1.535***
Constant	48.929***	49.021***	49.101***	48.420***	48.369***	51.173***
Observations	115083	56769	58222	55690	59301	18605
Adjusted R-squared	0.04	0.08	0.073	0.076	0.096	0.119

Note: * p<0.01 ** p<0.05 ***p<0.001.

Annex 4: P-QTR and coherence coefficient, by chiefdom (2022)

District	Chiefdom	P-QTR	Coherence coefficient
Bo	Badjia	180.4	0.0978
Bo	Bagbo	124.5	0.1242
Bo	Bagbwe(Bagbe)	135.1	0.4648
Bo	Bo City	44.1	0.5191
Bo	Boama	103.8	0.3279
Bo	Bongor	148.1	0.0182
Bo	Bumpe Ngao	118.4	0.1164
Bo	Gbo	133.6	0.0002
Bo	Jaiama	95.3	0.5789
Bo	Kakua	76.2	0.3909
Bo	Komboya	124.2	0.2416
Bo	Lugbu	125.6	0.0779
Bo	Niawa Lenga	89.2	0.1847
Bo	Selenga	93.5	0.3317
Bo	Tikonko	80.1	0.3284
Bo	Valunia	97.6	0.5877

District	Chiefdom	P-QTR	Coherence coefficient
Bo	Wonde	87.6	0.3853
Bombali	Biriwa Limba	91.4	0.4493
Bombali	Bombali Seborá	51.2	0.2876
Bombali	Bombali Siari	69.9	0.0940
Bombali	Gbanti	40.6	0.7269
Bombali	Gbendembu	115.6	0.2196
Bombali	Kamaranka	108.1	0.2214
Bombali	Magbaimba Ndowahun	166.1	0.1950
Bombali	Makarie	71.3	0.1473
Bombali	Makeni City	36.6	0.6331
Bombali	Mara	74.7	0.0116
Bombali	Ngowahun	96.1	0.0998
Bombali	Paki Masabong	74.8	0.3548
Bombali	Safroko Limba	59.6	0.1116
Bonthe	Bendu-Cha	140.5	0.4485
Bonthe	Bonthe City	57.1	0.7253
Bonthe	Bum	153.1	0.2462
Bonthe	Dema	91.8	0.4396
Bonthe	Imperri	109.9	0.4097
Bonthe	Jong	75.1	0.1769
Bonthe	Kpanda Kemo	111.1	0.3632
Bonthe	Kwamebai Krim	225.0	0.0000
Bonthe	Nongoba Bullom	128.0	0.0329
Bonthe	Sittia	106.8	1.0000
Bonthe	Sogbeni	120.9	0.0050
Bonthe	Yawbeko	141.2	0.4932
Falaba	Barawa Wollay	82.4	0.5149
Falaba	Delmandugu	148.8	0.0936

District	Chiefdom	P-QTR	Coherence coefficient
Falaba	Dembelia Musaia	69.1	0.5354
Falaba	Dembelia Sinkunia	94.7	0.6831
Falaba	Folosaba Kamba	110.3	0.8766
Falaba	Kamadu Yiraia	133.3	0.0005
Falaba	Kebelia	184.1	0.5013
Falaba	Kulor/Saradu	189.8	0.3789
Falaba	Mongo II	77.7	0.1916
Falaba	Morfindugu	119.3	0.4266
Falaba	Neya	149.0	0.2823
Falaba	Nyedu	147.3	0.4167
Falaba	Sulima	98.7	0.6307
Kailahun	Dea	101.0	0.5094
Kailahun	Jahn	40.3	0.9660
Kailahun	Jawie	80.2	0.4544
Kailahun	Kissi Kama	131.0	0.9234
Kailahun	Kissi Teng	114.4	0.2633
Kailahun	Kissi Tongi	137.6	0.3100
Kailahun	Kpeje Bongre	66.0	0.3488
Kailahun	Kpeje West	53.3	0.5250
Kailahun	Luawa	68.3	0.4442
Kailahun	Malema	94.2	0.2427
Kailahun	Mandu	87.1	0.3177
Kailahun	Njaluahun	55.9	0.5591
Kailahun	Penguia	102.5	0.3251
Kailahun	Upper Bambara	98.1	0.5359
Kailahun	Yawei	82.8	0.4458
Kambia	Bramaia	101.7	0.1217
Kambia	Dixon	108.8	0.0805
Kambia	Gbinleh	102.0	0.1713
Kambia	Khonimaka	168.2	0.0107

District	Chiefdom	P-QTR	Coherence coefficient
Kambia	Magbema	95.6	0.2282
Kambia	Mambolo	106.1	0.0971
Kambia	Masungbala	107.0	0.0009
Kambia	Miunu Thalla	166.0	0.1083
Kambia	Samu	142.5	0.1761
Kambia	Tonko Limba	143.7	0.0227
Karene	Buya	115.5	0.2458
Karene	Dibia	106.1	0.2596
Karene	Gbanti	86.9	0.1113
Karene	Libeisyagahun	131.8	0.0056
Karene	Mafonda Makerembay	139.5	0.2880
Karene	Romende	129.8	0.4496
Karene	Safroko	55.1	0.3732
Karene	Sanda Loko	140.5	0.3371
Karene	Sanda Magbolonthor	88.1	0.3570
Karene	Sanda Taindaren	97.9	0.1153
Karene	Sella Limba	104.7	0.3248
Karene	Simin Bungie	136.8	0.2169
Karene	Tambakha	126.9	0.2519
Kenema	Dama	89.6	0.1283
Kenema	Dodo	151.6	0.0480
Kenema	Gaura	101.6	0.2217
Kenema	Gorama Mende	162.2	0.1300
Kenema	Kandu Leppiana	133.1	0.0029
Kenema	Kenema City	47.3	0.3676
Kenema	Koya	124.0	0.0562
Kenema	Langrama	187.5	0.9077
Kenema	Lower Bambara	144.2	0.2675
Kenema	Malegohun	107.0	0.0047

District	Chiefdom	P-QTR	Coherence coefficient
Kenema	Niawa	74.1	0.5575
Kenema	Nomo	208.2	0.2724
Kenema	Nongowa	92.9	0.3941
Kenema	Simbaru	143.0	0.1293
Kenema	Small Bo	64.3	0.1321
Kenema	Tunkia	128.8	0.3881
Kenema	Wandor	187.2	0.1149
Koinadugu	Diang	128.4	0.0382
Koinadugu	Gbonkobon Gbonkobo\ Kayaka	121.3	0.5561
Koinadugu	Kaillan	83.7	0.2608
Koinadugu	Kamukeh	153.7	0.0131
Koinadugu	Kasunko	94.8	0.8589
Koinadugu	Nieni	90.7	0.4842
Koinadugu	Sengbe	64.4	0.5077
Koinadugu	Tamiso	199.8	1.0000
Koinadugu	Wara Wara Bafodia	95.3	0.0697
Koinadugu	Wara Wara Yagala	71.8	0.4483
Kono	Fiama	118.4	0.7619
Kono	Gbane	156.2	0.0976
Kono	Gbane Kandor	82.1	0.1319
Kono	Gbense	132.9	0.0083
Kono	Gorama Kono	167.9	0.0026
Kono	Kamara	146.6	0.0003
Kono	Koidu City	80.4	0.3984
Kono	Lei	198.7	0.1944
Kono	Mafindor	101.1	0.0226
Kono	Nimikoro	106.9	0.0242
Kono	Nimiyama	134.5	0.3651
Kono	Sandor	182.2	0.1236

District	Chiefdom	P-QTR	Coherence coefficient
Kono	Soa	157.5	0.1381
Kono	Tankoro	76.8	0.1018
Kono	Toli	136.5	0.5134
Moyamba	Bagruwa	86.2	0.3439
Moyamba	Bumpeh	123.6	0.1035
Moyamba	Dasse	82.9	0.3405
Moyamba	Fakunya	85.9	0.4478
Moyamba	Kagboro	147.2	0.2839
Moyamba	Kaiyamba	66.7	0.2582
Moyamba	Kamajei	81.1	0.2265
Moyamba	Kongbora	77.7	0.3624
Moyamba	Kori	76.1	0.5326
Moyamba	Kowa	88.9	0.1103
Moyamba	Lower Banta	124.4	0.0693
Moyamba	Ribbi	103.7	0.2098
Moyamba	Timdale	114.3	0.6414
Moyamba	Upper Banta	103.0	0.3475
Port Loko	Bakeh Loko	54.9	0.4167
Port Loko	Bureh	83.0	0.5162
Port Loko	Kaffu Bullom	73.3	0.6303
Port Loko	Kamasondo	110.7	0.4090
Port Loko	Kasseh	114.4	0.3206
Port Loko	Koya	120.8	0.2788
Port Loko	Lokomasama	103.2	0.2241
Port Loko	Maconteh	98.1	0.5886
Port Loko	Maforki	84.0	0.3848
Port Loko	Makama	94.4	0.5750
Port Loko	Marampa	76.8	0.7180
Port Loko	Masimera	115.7	0.2240

District	Chiefdom	P-QTR	Coherence coefficient
Port Loko	Thainkatopa	105.5	0.8352
Pujehun	Barri	117.8	0.5187
Pujehun	Gallianess	130.6	0.6666
Pujehun	Kabondeh	77.5	1.0000
Pujehun	Kpaka	107.9	0.1173
Pujehun	Kpanga	95.1	0.4392
Pujehun	Kpanga Krim	89.2	0.6132
Pujehun	Makpele	190.6	0.4178
Pujehun	Malen	111.8	0.2178
Pujehun	Mano Sakrim	137.0	0.0354
Pujehun	Pejeh	92.5	0.0035
Pujehun	Perri	130.1	0.3786
Pujehun	Sorogbema	129.4	0.2254
Pujehun	Sowa	105.2	0.3128
Pujehun	Yakemu Kpukumu Krim	130.6	0.1174
Tonkolili	Dansogoia	82.7	0.5522
Tonkolili	Kafe	116.8	1.0000
Tonkolili	Kalanthuba	36.1	1.0000
Tonkolili	Kholifa Mabang	107.1	0.2425
Tonkolili	Kholifa Rowala	47.0	0.3000
Tonkolili	Kholifa-Mamuntha Mayosso	79.1	0.5443
Tonkolili	Kunike - Falawusu	56.9	0.0558
Tonkolili	Kunike Barina	52.8	0.0606
Tonkolili	Kunike-Sanda	65.2	0.1986
Tonkolili	Malal	75.1	0.4121
Tonkolili	Masankog	135.3	0.5656
Tonkolili	Mayepoh	57.5	0.3058
Tonkolili	Polie	69.7	0.1791
Tonkolili	Sambaia	136.7	0.4907

District	Chiefdom	P-QTR	Coherence coefficient
Tonkolili	Simiria	135.3	0.5287
Tonkolili	Tane	88.9	0.3637
Tonkolili	Yele	84.1	0.3447
Tonkolili	Yoni Mabanta	115.6	0.0028
Tonkolili	Yoni Mamaila	75.1	0.2545
Western Area Rural	Koya Rural	82.9	0.3018
Western Area Rural	Mountain Rural	52.3	0.4962
Western Area Rural	Waterloo Rural	58.0	0.3605
Western Area Rural	York Rural	66.1	0.3229
Western Area Urban	Central I	45.9	0.3597
Western Area Urban	Central II	30.7	0.0770
Western Area Urban	East I	34.2	0.7701
Western Area Urban	East II	46.0	0.5675
Western Area Urban	East III	51.6	0.3356
Western Area Urban	West I	32.7	0.7692
Western Area Urban	West II	41.1	0.2091
Western Area Urban	West III	42.3	0.4176

Source: 2022 EMIS, approved schools only. N = 207 administrative units.

Note: The figure includes 207 administrative units. The “Western Area” lacks chiefdoms and is represented by 12 ward-level subunits; remaining discrepancies reflect EMIS classification of locally distinct or recently split localities. EMIS data (MBSSE, 2022) comes from approved schools.

Annex 5: Qualitative case study

An explanatory case study was conducted, drawing on a review of policy and planning documents and primary qualitative data collection. Location selection followed data-driven and feasibility criteria, including variation in teacher workforce characteristics, the presence of both urban and rural schools, and school road accessibility. From the list of districts that met these criteria, Bo and Kono were selected by members of the Teachers for All project’s core technical team as suitable sites for fieldwork. In total, 30 pieces of data were collected: 22 semi-structured key informant interviews and 8 focus group discussions, both of which were conducted in English and, where

needed, in Krio. In total, 52 respondents voluntarily participated at the central, district and school levels across the selected districts.³³

All research protocols and data-collection guides were approved by the Health Media Lab Institutional Review Board and the Office for Human Research Protections, providing ethical assurance for the protection of human subjects in international social and behavioural science research for children, education and vulnerable and high-risk populations, among other topics. The Institutional Review Board application for this research phase was approved on 30 April 2024.

The qualitative component of the study faced some limitations that may affect the scope of the findings. The research was limited to Bo and Kono Districts, which may not capture the full range of teacher deployment experiences and school-level conditions across Sierra Leone. In particular, the factors shaping teacher availability, deployment and retention may differ in other parts of the country, suggesting the value of further context-specific investigation. Additionally, while efforts were made to accommodate language preferences using Krio, subtle nuances in the translation to English could affect the responses. Finally, as with any qualitative research, reliance on self-reported data may introduce some bias, as participants might have presented their experiences in ways that align with social expectations.

Level	Key actors/respondents	
National	Sierra Leone Ministry of Basic and Senior Secondary Education and Teaching Service Commission	 30 interviews and focus group discussions  52 respondents  2 districts  8 schools
	Sierra Leone Teachers Union	
	Teacher Training Institution	
Subnational	Sierra Leone Ministry of Basic and Senior Secondary Education and Teaching Service Commission – District level	
	City Council Education Departments	
School	Head teachers	
	Teachers	

³³ The sample size was determined by the saturation point reached during data collection, ensuring that no new information or themes emerged from additional interviews or discussions.

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About us

UNICEF, the United Nations agency for children, works to protect the rights of every child, everywhere, especially the most disadvantaged children and in the toughest places to reach. Across more than 190 countries and territories, we do whatever it takes to help children survive, thrive, and fulfil their potential.

UNICEF Office of Strategy and Evidence – Innocenti accelerates progress for children by working to ensure that policies and programming are informed by high-quality evidence. As the global custodian of child-related official statistics, it works closely with governments and partners to strengthen national statistical systems. Through world-leading data, research and foresight, it underpins UNICEF's global leadership on children's rights and serves as the organization's hub for setting strategy and monitoring programmes. With the active engagement of young people and other partners, it supports advocacy and dialogue aimed at improving the lives of children everywhere.

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