# The State of Education Accountability in Pakistan:
# The Use of Data Systems to Improve Learning, Inclusion, and Transparency

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# List of abbreviations

| | | | | |
|---|---|---|---|---|
| **AEO** | Assistant Education Officer | **NEMIS** | National Education Management Information Systems |
| **ASER** | Annual Status of Education Report | **NTS** | National Testing Service |
| **BANBEIS** | Bangladesh Bureau of Educational Information and Statistics | **OECD** | Organisation for Economic Co-operation and Development |
| **COT** | Classroom Observation Tool | **PEC** | Punjab Education Commission |
| | | **PECTAA** | Punjab Education Curriculum Training and Assessment |
| | | **PER** | Performance Evaluation Review |
| **DEO** | District Education Officer | **PIE** | Pakistan Institute of Education |
| **DEPIx** | District Education Performance Index | **PMDU** | Prime Minister's Performance Delivery Unit |
| | | **PMIU** | Programme Monitoring and Implementation Unit |
| | | **PSLM** | Pakistan Social and Living Standards Measurement |
| | | **RISE** | Research on Improving Systems of Education |
| **DSF** | Data Standardised Framework | | |
| **EMIS** | Education management information system | | |
| **GDP** | Gross domestic product | | |
| **HIES** | Household Income and Economic Survey | | |
| **KP** | Khyber Pakhtunkhwa | **SDGs** | Sustainable Development Goals |
| | | **SED** | School Education Department |
| | | **SEMIS** | Sindh Education Management Information System |
| | | **SIF** | School Information Framework |
| | | **SIS** | School Information System |
| **LND** | Literacy and Numeracy Drive | | |
| **MICS** | Multiple Cluster Indicator Survey | | |

| NAS | National Achievement Survey | TIMSS | Trends in International Mathematics and Science Study |
|---|---|---|---|
| NAT | National Assessment Test | UDISE | Unified District Information System for Education |
| | | UNICEF | United Nations Children's Fund |

# Introduction

The interplay between school accountability mechanisms and educational outcomes has emerged as a focal point of scholarly investigation, reflecting a growing consensus on the need for effective strategies to enhance teacher performance and education quality. In low- and middle-income countries like Pakistan, these strategies are particularly critical, given the persistent challenges of poor learning outcomes, inefficient resource use, and governance gaps. This growing field of research seeks to understand how various forms of accountability, ranging from merit-based hiring practices to stakeholder engagement, can influence the pedagogical efficacy and commitment of educators, thereby impacting student achievement.

Education accountability mechanisms are designed to ensure that schools, and the entire system of governance that supports schools and educational institutions, are held accountable for delivering educational outcomes. These mechanisms can take the form of formal monitoring systems, standardised assessments of student learning, as well as informal stakeholder feedback loops involving parents and local communities. In the context of Pakistan, whether and how these mechanisms actually influence classroom practice and student learning remains a central policy question. Well-designed accountability systems have the potential to improve educational outcomes by aligning incentives, increasing transparency, and promoting a culture of continuous improvement.

## Purpose of the paper and methodology

This paper assesses the current state of education accountability in Pakistan, focusing on the quality, scope, and usability of existing national datasets. It asks whether these data systems can meaningfully support a robust accountability framework that advances inclusion, transparency, and improved learning outcomes. To do this, we review available national data sources in Pakistan, and present an overview of recent scholarship on school accountability and student learning. Using published government documents, and drawing on meetings and interviews conducted with government officials and key education practitioners, we outline the existing mechanisms for accountability in Pakistan.

A descriptive data review was undertaken to assess the availability of data containing school-level information (sources are provided in Appendix 1, Table A1.1). In cases where datasets were not available for direct review, we relied on official descriptions provided by government websites, reports, and publications to understand the data collection methodology and the nature of the information recorded. In particular, we looked at the availability and measurement of constructs like student learning outcomes, school enrolment, teacher attendance, filled/sanctioned teacher posts, parental and community involvement, and school funding and resources. The paper has adopted a scoping approach to understand the feasibility of using the datasets available in Pakistan and the extent to which they measure metrics related to accountability and inclusivity.

For the key informant interviews, participants were purposefully selected to provide expert insights on the purpose, design, and implementation of accountability systems in Pakistan, and the use of administrative data in improving them. Two senior government officials, one at the

federal level and one at the provincial level, were included, both with experience in the management of administrative data collection and school monitoring systems. They were asked to share their perspectives on the reliability, accuracy, and use of current administrative data systems, such as education management information systems (EMISs), especially in the context of building accountability systems to track learning progress. In addition, interviews were conducted with three education experts with extensive experience in government programme implementation and the use of data for accountability, monitoring, and research in education.

We employed the qualitative research method of conducting in-depth interviews to collect data from five individuals.The following process was implemented for data collection via interviews:

1. *Participant selection*: Identified and selected individuals with substantial knowledge and experience related to accountability mechanisms and to data collection and utility within Pakistan's education sector.
2. *Defining research objectives:* Developed specific research questions addressing educational accountability in Pakistan and the availability of accurate data to support accountability objectives.
3. *Adhering to ethical considerations:* Adhered to ethical protocols, including obtaining informed consent, ensuring voluntary participation, guaranteeing participant privacy, and providing participants with the interview write-ups for approval of any quoted or narrative content.
4. *Interview method:* Began with open-ended questions on accountability, followed by semi-structured questions and probes aligned with the key objectives of the scoping paper.
5. *Data management:* Recorded and transcribed interviews, systematically identifying recurring patterns and insightful themes from the discussions.

The findings from the interviews are summarised in Appendix 2 and have informed the discussions in the sections that follow. A core proposition of this paper is that improved accountability begins with clarity about what outcomes the system should be held accountable for. Identifying these goals is a prerequisite for creating meaningful accountability systems. We offer insights on the foundational steps required to improve education accountability systems Pakistan – most notably, establishing clear and measurable education outcomes that are objective and comparable across time and space. We identify appropriate measures to enhance accountability, equity and inclusiveness in schools, and review the existing data to determine if these measures can be reliably constructed. We then highlight the gaps in current measures and the deficiencies in the existing data sources.

## Context and justification

Accountability systems are needed to remedy the severe shortcomings in Pakistan's education system. There are estimated to be 26 million out-of-school children in Pakistan, and the current annual rate of a 3% increase in enrolment is not rapid enough to achieve universal access to education in the near future. Gross primary enrolment is at 78%, and this falls to 54%, 43%, and 22% at the middle, high, and higher secondary levels, respectively, indicating high rates of school dropouts beyond elementary school. Girls' school participation lags behind that of boys

and regional discrepancies persist (Pakistan Institute of Education, 2024). These persistent access and equity challenges make a compelling case for an accountability system that can track and drive progress in enrolment, retention, and transitions based on disaggregated, real-time data.

Low learning levels remain a major problem since even among those students who do attend school it is estimated that only about half of fifth graders have basic competency in reading and arithmetic (Annual Status of Education Report (ASER) 2023). According to the 2023 Annual School Census (ASC) the majority of out-of-school children have never enrolled in school, and parents' concerns about the low quality of schooling are a major reason for them not wanting to send their children to public schools (Kakar, 2024). For learning to be at the centre of educational goals, accountability systems must integrate robust, actionable measures of student learning. In order to make optimal use of the findings related to learning assessments, these assessments must be integrated with accountability mechanisms. The accountability systems should use this information to assign clear tasks to officials and teachers in the public education system, with the aim of achieving educational goals. In Pakistan, teachers and school administrators are obliged to perform non-education-related activities, such as election-related duties and invigilating board exams, which takes time away from interaction with students and from classroom instruction. Accountability systems therefore need to prioritise indicators that measure teaching effort in classrooms, such as time on task.

Moreover, ineffective budgetary oversight and the absence of transparent and objective monitoring mechanisms exacerbate resource misallocation, reducing the overall efficiency of educational spending. Public expenditure on education is low in Pakistan, comprising only 1.5% of gross domestic product (GDP) in 2022–23 (Pakistan Economic Survey, 2023-24). However, the impact of increased public spending is more effective when governance systems are of a high quality (Rajkumar and Swaroop, 2008). In Pakistan, weak planning, limited management capacity, and poor monitoring practices compromise the effective use of education budgets. Government reforms aided by international donor-funded programmes sometimes lead to the development of successful monitoring systems, but they rarely have much impact beyond the completion of the project funding cycle. This view was expressed by one of the key informants:

> '*The problem is that when the donor project ends, nobody cares anymore. The system settles back into equilibrium. So how do you make people care about accountability based on data in a sustained way?*'

Furthermore, monitoring and assessment systems are unequipped to gauge the impact of various policies and reforms (Andrabi and McDonald, 2019).

Underdeveloped areas often receive lower funding as compared to more developed ones, which leads to regional inequalities in education remaining unaddressed. Provincial education budgets are primarily used to cover recurrent costs like salaries, rather than for development and improvement (I-SAPS, 2023). Without linking financial inputs to measurable outputs, such as improvements in learning or infrastructure, the accountability of spending remains weak.

Meaningful improvements in accountability will require strengthening the consistency of monitoring tools, enhancing data interoperability across provinces, and ensuring that roles and

responsibilities are aligned with performance expectations. In Pakistan, the delivery of education has been delegated to the provinces, and the decentralisation of education governance, introduced through the 18th constitutional amendment, presents both opportunities and challenges for accountability. While provincial autonomy theoretically allows for accountability frameworks that are tailored to local contexts, the lack of harmonised standards and limited cross-provincial coordination impede the establishment of a unified vision for educational excellence. For instance, the School Improvement Framework (SIF) has been developed in Punjab and Khyber Pakhtunkhwa (KPK) and currently collects data on several indicators across schools, but duties and consequences are not clearly aligned to relevant stakeholders. Improvements in existing monitoring systems such as the SIF are needed to bring about meaningful shifts in delivering quality education. Recent commitments by national and provincial governments and donor organisations to strengthen the positions of district-level education management in all provinces highlight the recognition of important gaps in education delivery and accountability (UNESCO, 2025).

# Section 1: Understanding a good education accountability system

A comprehensive education accountability system involves multiple, interconnected components that collectively ensure transparency, effectiveness, and responsiveness within education systems. Successful accountability systems should clearly define educational outcomes, adopt rigorous monitoring procedures, ensure meaningful stakeholder participation, and provide appropriate incentives/consequences based on performance. They should also recognise the complexity of education systems, going beyond merely measuring simplistic outcomes or imposing punitive measures and instead creating enabling environments that encourage continuous improvement, adaptability, and collaboration among stakeholders.

Accountability and monitoring frameworks vary across countries. Prominent features of robust accountability systems include a clear vision of the objectives of education, choosing indicators that are aligned with the objectives, stakeholder engagement, providing feedback on design, implementation, and revisions (OECD, 2021). In the Research on Improving Systems of Education (RISE) framework, a wider 'systems approach' is favoured, rather than a symptom-by-symptom approach. Four accountability relationships in the education system – politics, compact, management, and voice and choice – are used to diagnose why education systems may not be delivering high-quality education to the majority of children. This framework emphasises the importance of interactions between different players, and feedback loops (Silberstein and Spivak, 2023).

It is clear that improved learning depends on many activities involving several stakeholders, varying by specific political and other contexts (Kingdon *et al*., 2014; Hickey and Hossain, 2019), and it is argued that EMIS-type data systems only capture a partial overall snapshot of changes in some measures of educational attainment. Sanctions-based accountability that is based on these measures, or 'thin inputs' (Honig and Pritchett, 2019), may not evoke the effort and inputs needed to improve learning achievement, which may require different incentives

involving more time, support, and innovative methods that are not recognised under simple and quantified accountability regimes.

The relationship between school accountability mechanisms and the enhancement of teacher performance and education quality has garnered significant attention. For example, Estrada (2019) demonstrated that in Mexico the practice of hiring teachers through the application of standardised examinations, as opposed to involving union discretion, resulted in notably better student performance, suggesting that merit-based hiring practices can significantly impact educational outcomes. Moreover, in the absence of merit-based systems, the author found that corruption could play a role in Mexico's teaching hiring process, since having close ties to the union helped teachers achieve better school assignments.

A multi-country research project under the DeliverEd initiative (Bell *et al*., 2023) examined the effectiveness of education delivery in different contexts and provided valuable insights related to education accountability. Delivery approaches generally tended to be more centralised, with less activity at sub-national and local levels. The collection and use of data also tended to be concentrated at the central administrative tiers, and it was recommended that incorporating feedback loops in the design of delivery models, and more involvement of frontline actors, could have a positive and sustained impact on education delivery systems.

Collectively, the existing literature presents a strong argument for the implementation of robust accountability systems within the educational sector. Such systems not only motivate teachers and increase their engagement but also lead to significant improvements in student performance, thereby enhancing the overall quality of education.

## Key components of a functional accountability system

1. **Defined goals and metrics:** Setting clearly articulated, measurable, and contextually relevant education goals helps to ensure alignment between stakeholders and the accountability system. Defined objectives should not only reflect broad aspirations such as universal access or learning standards but should also specify targets for reducing inequalities, ensuring inclusivity, and optimising resource allocation. These goals must be continuously revisited, refined, and communicated transparently among policymakers, educators, students, and other stakeholders.

Accountability systems created to reach defined education goals have to matter to parents, teachers, students, and those involved in delivering the services. This means there is a need to involve all stakeholders and to understand the purpose of the education and accountability system in a given context. States may prioritise education as a basic human right, or as a means to achieve economic growth; or citizens may demand public education through local or national representation; and societies may also lean towards private schools at various affordability levels if public education is not available or is of a low quality. Many countries have also committed to achieving Sustainable Development Goal 4 (SDG4), which is related to UNESCO's 2015 declaration (UNESCO, 2016), of 'inclusive and equitable quality education and lifelong learning opportunities for all' by 2030.

2. **Monitoring and evaluation:** Accurate collection of data relating to measures of accountability is at the core of building meaningful accountability systems, and to regular monitoring of educational goals. Such data include data on enrolment, student and teacher attendance, and learning progress. Developing and implementing accurate and regular assessments that track how well students are learning is also at the centre of education accountability, and attempts to strengthen learning assessment systems have been the focus of recent support by international agencies to various developing countries (Global Partnership for Education, 2019). Tools developed to help in monitoring education outcomes rely on the collection of consistent and reliable data. For instance, the World Bank Teach tool is a free classroom observation tool that has been used in early education, primary and secondary classrooms and that was designed to help countries collect data on teaching practices to improve teaching quality, following the 'Teach framework'. Teaching quality in the classroom can be estimated by evaluating factors such as teacher presence, time spent on tasks, use of teaching materials and pedagogical methods.

A lack of coordination between different ministries and government departments in using evaluation and feedback data can create barriers to effective accountability in education. A school governance programme in Tanzania (Cilliers and Habyarimana, 2023) used text messaging to enhance coordination among government agencies, leading to better implementation of the specific recommendations for schools and teachers. Involving mid-level officials via text messaging proved to be a cost-effective method for improving student learning under this programme.

Effective monitoring and evaluation must go beyond mere compliance checks and aggregate statistics: it should produce actionable insights that guide decision-making and interventions at various levels. Data-driven accountability relies on comprehensive, timely, and reliable educational data, supported by robust technological infrastructure and competent personnel who manage, analyse, and interpret the information collected. Monitoring systems should be dynamic, adaptable to emerging educational needs, and designed to support – rather than merely penalise – educators.

3. **Stakeholder feedback loops:** Robust stakeholder feedback loops ensure that accountability systems are responsive and contextually appropriate. Effective feedback mechanisms engage diverse stakeholders, including students, parents, teachers, administrators, and local communities, to collectively identify gaps, provide constructive suggestions, and foster greater ownership of educational outcomes. Transparent and accessible feedback channels help stakeholders contribute meaningfully to the education process, creating accountability through active participation rather than passive compliance.

For example, it has been found that parental involvement can create mechanisms for school and teacher accountability. Islam (2019) reported that, in the developing country context of Bangladesh, an intervention consisting of monthly parent–teacher meetings was considered to be a cost-effective educational intervention. The practice of discussing students' progress by showing parents report cards and explaining how the child was performing on various tests and exams not only significantly improved student test scores in the treatment schools compared to control schools, but also improved students' attitudes and behaviours, alongside improvements

in teacher pedagogical practices. This underscores the value of increased engagement and accountability through direct interaction with stakeholders in elevating the quality of education.

4. **Consequences and incentives:** To motivate public sector workers, the education system must first specify its objectives, measure achievement of those objectives (and related outcomes), and then incentivise workers based on those measures. Incentives can include sanctions or rewards based on worker effort. Identifying the inputs or tasks that are productive in achieving the desired outcomes is fundamental to creating incentives. Implementation of the education system has to be carried out as intended, which requires monitoring, as well as establishing feedback loops to check for results. There have to be consequences for achieving or not achieving the desired results and also enough built-in flexibility and support in the accountability system to enable revisions to be made if needed.

Teacher attendance and effort are necessary to sustain school performance. Mbiti (2016) showed how high teacher absenteeism has a ripple effect, whereby other teachers are forced to check on classes with no teachers, and to teach them, resulting in multi-grade classrooms. Additionally, Duflo, Dupas, and Kremer (2012) reported that reducing class sizes in Kenya without addressing teacher effort and accountability did not yield improvements in student learning. Instead, nepotism increased, and existing teachers helped their relatives to get into these new teaching spots, as a result of the decreased class size. This highlights the complex and crucial role of accountability mechanisms in ensuring that educational investments are effectively translated into tangible improvements in teaching and learning. Duflo, Hanna, and Ryan (2012) found in India that monitoring teacher attendance and linking it to teachers' salaries led to a substantial reduction in absenteeism. This indicates that financial incentives, when tied to accountability measures, are effective in enhancing teacher dedication and student achievement. In contrast, Ree, Muralidharan, Pradhan, and Rogers (2018) found that when pay for teachers was doubled in Indonesia permanently as part of a policy change, teacher satisfaction increased but there was no discernible impact on teacher effort or student learning outcomes two to three years after the reform, implying that these financial incentives needed to be tied to accountability of teachers to affect the quality of education. It may be difficult to align results to appointed or specific stakeholders, and designing effective incentives and sanctions remains a challenge.

Consequences and incentives are most effective when they are clearly linked to measurable outcomes, transparently applied, and perceived as fair and legitimate by educators and stakeholders alike. Successful accountability systems balance positive incentives (e.g. recognition, career advancement, financial rewards) and corrective measures (e.g. additional support, targeted training, remedial actions). The challenge is in designing incentives that motivate sustained improvement in teacher practice and student learning without encouraging narrow 'teaching-to-the-test' behaviours or superficial compliance.

# Section 2: Current education accountability mechanisms in Pakistan

**Pakistan's current accountability goals versus international benchmarks**

Improving the quality of learning for all children needs to be at the centre of Pakistan's education goals, since low achievement in learning also leads to low enrolment and retention rates as parents' demand for public school education falls when they cannot see the benefits arising from the time children spend in school. In 2019, Pakistan participated for the first time in the international assessment Trends in International Mathematics and Science Study (TIMSS). The comparison with other countries yielded discouraging results as science and mathematics achievement indicators in Pakistan were ranked at 63 out of 64 participating countries. Since then, the TIMSS project in Pakistan has been established, under the Pakistan Institute of Education (PIE). This aims to develop large-scale testing capacity in the country and to improve Pakistani students' learning achievements in global comparisons (Ministry of Federal Education and Professional Training, Government of Pakistan, 2024). The TIMSS project also supports SDG4 targets addressing basic science and mathematics proficiency, as well as goals in early childhood education, school safety, gender parity, and improved teacher competence. Changes in education policy are made at the provincial level, but a national commitment to setting benchmarks for education standards could be an important catalyst for improving learning.

## Decentralisation

Since 2010, Pakistan has decentralised education delivery and governance to sub-national levels under the 18th amendment to the constitution. There is some collaboration between federal and provincial education departments on areas such as data collection, curriculum guidelines, and learning resources, but provincial governments are solely responsible for setting specific policies and accountability standards. In an ideal scenario, greater autonomy allows provinces to develop accountability systems that are more suited to local needs and challenges, but in reality not much progress has been made in actual education outcomes, despite the enactment of several reforms in all provinces. Although decentralisation offers the promise of localised solutions, it has also created complexities in regard to maintaining uniform standards of accountability and performance measurement across provinces. Differences in administrative capacity, resource availability, and political priorities have resulted in uneven implementation of accountability mechanisms.

## Administrative tiers

Provinces have different administrative and institutional structures, but districts serve as the primary implementation tier. The table below effectively illustrates how educational responsibilities and accountability mechanisms vary significantly across administrative tiers. Its placement at the beginning of this subsection is intended to frame the subsequent discussion of vertical and horizontal accountability challenges within the Pakistani educational context.

**Table 1: The role of federal, provincial, and district governments in education accountability in Punjab province**

| Level | Who is accountable? | To whom? | For what? | Through what mechanisms? |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| **National** | Federal ministries, data repository, and research centres | Citizens, legislative, donor governments | Article 25-A, SDG4 and learning goals, donor funding, public reporting | SDG4 reviews, donor review audit reports, Pakistan Education Statistics and National Achievement Test (NAT) reports |
| **Province** | School Education Department (SED), curriculum boards, assessment bodies, teacher training institutes | Provincial cabinet, Chief Minister, legislature, citizens | Policy formulation, budget allocation, standards setting, oversight | Cabinet reports, legislative questions, media scrutiny, audit reports, court cases |
| **District** | District Education (DEOs), District Monitoring Officers, heads of merged bodies (where relevant) | Provincial department (SED), Distric Commisioners, local communities | Implementing policies, managing schools, ensuring teacher presence, basic quality monitoring | EMIS, field monitoring reports, performance reviews, community complaints, education councils |
| **Tehsil** | Assistant Education Officers (AEOs), cluster heads, school heads, teachers | DEOs, parents, local elected bodies (where present) | School-level functioning, teacher supervision, student attendance and learning, community engagement | School visits, informal community feedback, school councils, inspections, assessments, report cards |

Upward accountability dominates Pakistan's education systems. That is, schools report to AEOs, AEOs to DEOs, and DEOs to SED. Horizontal accountability (to citizens, students, or peer institutions) is weaker and/or is only symbolic. District administrations are not equipped to use school-level data for decision-making and for supporting to schools.

Feedback loops from learning assessments, EMIS data, and school monitoring are not systematically linked to improvement plans. A lack of capacity at the district level, which was repeatedly referred to in the key informant interviews conducted for this paper and is documented in donor reports, continues to be a major hurdle in identifying gaps in learning and finding solutions to shortcomings at the local level. One key informant highlighted the importance of decentralising assessments, arguing that when testing is centrally controlled at the provincial level, it often promotes rote memorisation and 'gaming' when assessments are high stakes. This informant stressed that standardised comparisons become problematic when applied across vastly different districts:

> '*There's always an issue with standardisation. You want to compare across regions, but if the regions are fundamentally different, what's the point? Conditions in Rajanpur are very different from those in Lahore. Some subjects, like maths, can accommodate standardised tests, but language assessments should be more flexible. That would require building district-level capacity to design context-sensitive tests – something we currently lack.*'

Moreover, education officials at the district and sub-district levels are usually promoted from teaching jobs and need better training in managing schools. The high turnover of senior officials

at the district and provincial levels presents another barrier to availability of the effective leadership required to improve educational results.

The newly structured PIE oversees the National Educational Management Information System (NEMIS), which consolidates data from provincial EMIS units to create a comprehensive national education database. This system plays a crucial role in setting data quality standards and providing technical support to provinces, thereby strengthening their capacity to generate and maintain accurate educational data.

The Data Standardisation Framework (DSF) is used to inform standards for the collection of education data in Pakistan, which are then followed to conduct the Annual School Census across provinces. The resulting data are utilised to generate the Pakistan Education Statistics reports (hosted on the upcoming National Open Data Portal (NODP)). The portal intends to provide feedback to improve the DSF, Annual School Census processes, and Pakistan Education Statistics reporting over time. This integrated and standardised system aims to support better policies and resource allocation in the future. However, provincial onboarding is still a key challenge, with a need for technical support for provincial EMIS departments to address DSF-related bottlenecks, and for political advocacy and the provision of other relevant assistance.

The District Education Profile Index (DEPIx) was developed by the Planning Commission to gauge overall education performance while the DSF was being finalised. An index using five domains (infrastructure, learning, inclusion, governance, and public finance) was constructed to compare educational attainment across districts and provinces (Ministry of Planning, Development and Special Activities, 2023). This is a useful exercise that allows for identifying and assigning weights to different indicators that can reflect regional and national priorities.

In addition to data management, PIE administers the NAT, a sample-based assessment conducted biennially for Grades 4 and 8. Student proficiency is evaluated in subjects such as English, Urdu/Sindhi, mathematics, and science, offering valuable insights into learning levels across different regions. The 2023 NAT involved over 23,000 students from nearly 1,300 public schools nationwide, providing data to inform policy decisions and educational reforms. Key informant interviews revealed that while changes to education policy occur at the provincial level, a national commitment to establishing benchmarks for education standards could serve as a powerful driver for improving learning outcomes.

Notwithstanding the descriptive statistics and assessment testing produced by PIE, the implementation of accountability and governance systems remains the responsibility of provincial governments. This decentralised structure necessitates effective collaboration between federal and provincial entities to ensure that data-driven insights lead to tangible improvements in educational outcomes.

Lessons can be learned from data-based accountability systems introduced in the past. In Box 1 below, a highly publicised centralised policy introduced in Punjab for a period of six years revealed that without clear incentives and support, regularly ranking and identifying low- and high-performing districts did not lead to sustained results. Similarly, under the SIF introduced in

Punjab and KP, the lack of clear incentives and weak coordination among different government departments were among the reasons for its weak impact on education outcomes.

**Box 1: Examples of data-driven accountability**

The **Punjab Education Roadmap** was a high-profile centralised top-down data-driven accountability and monitoring system introduced in Punjab from 2011 to 2018. Accountability consisted of quarterly 'stocktake meetings' conducted at the Chief Minister's office level to track progress on key education indicators based on district-level data systems for all 36 districts. There were no consequences attached to low-performing districts except warnings and reprimands. With the change of government in 2018, the system was abandoned and it was not found to have achieved substantial or lasting results (Gulzar *et al*, 2023; Malik and Bari, 2023).

Another accountability system, the **SIF**, is a composite monitoring and improvement tool introduced in Punjab. A similar tool was also used in KP. The SIF consolidates several indicators across domains such as student participation and development, teachers and teaching, leadership and school support, and school environment. These indicators are combined into a composite index at the school level, creating a School Status Index that highlights each school's relative standing. The SIF was designed to shift accountability from narrow compliance to broader school improvement by providing education officials and school heads with structured, school-specific performance profiles. While the SIF aimed to inform targeted support and follow-up actions, it remained limited by the absence of strong incentives or consequences tied to how different tiers of the government responded to the identified needs of the schools, and by weak integration with curriculum reform, teacher development, and planning processes.

The effectiveness of data-driven accountability initiatives depends on the validity and reliability of the underlying measures, data quality, overcoming delays in reporting, and providing feedback and tools for enhanced utilisation by district education officials, who frequently lack the technical skills or incentives to act upon insights provided by data trends. Strengthening district-level capacities through targeted training and infrastructure support would significantly enhance the practical utility of accountability data.

## Current teacher accountability and support mechanisms

While recent hiring reforms represent important steps towards meritocracy, substantial gaps persist in linking teacher performance evaluations directly to student learning outcomes.

1. **Teacher hiring policies:** Making teachers and education managers more productive and more accountable is one of the central challenges of Pakistan's education system. Various measures have been taken to improve education outcomes, such as improved teacher salaries under the National Education Policy of 2009 and introducing the National Testing Service (NTS) exams for merit-based teacher recruitment. Other measures include the Sindh Government's 2021 Recruitment Policy (Teaching and Non-Teaching) that requires merit-based, transparent hiring of qualified teachers, along with rules for hiring locally available teachers for specific schools based on Union Council /Taluka in hard-to-reach, remote areas. Baluchistan has implemented the requirement of two years of professional training (associate's degree) for government schools, and a master's degree in education and subject specialisation for secondary school teachers. In Punjab, academic qualifications, NTS tests, and an interview are

used to qualify teachers for teaching. To increase the number of teacher applicants, KP has removed the requirement of having completed a professional degree or course, such as a Primary Teaching Certificate (PTC), a Certificate in Teaching (CT) or a Bachelor of Education (B. Ed.) degree and has instead introduced a six-month mandatory induction period for recruited teachers. KPK schools also hire school-based teachers through the NTS to meet targets for student–teacher ratios (Government of Khyber Pakhtunkhwa Education Sector Plan 2020–2025). In Baluchistan as well, teachers are recruited through a merit-based standardised testing process adapted from NTS tests (Baluchistan Education Support Programme, 2020–2025).

2. **Teacher distribution**: Despite teacher rationalisation policies, imbalances in teacher distribution across schools and regions are not being addressed. Ideally, teacher placement should be driven by teacher–student ratios in schools but available data on this issue remains largely unutilised due to administrative inefficiencies and political interference (Bari *et al*., 2015). The education departments in Punjab and KP have introduced an online e-transfer policy to ensure teacher deployment is based on merit rather than personal preferences. While this policy has the potential to enhance transparency and reduce political interference, its effectiveness in addressing teacher shortages and teaching quality remains to be seen for schools in disadvantaged/rural areas (Siddiqui and Shaukat, 2021). In 2025, the Punjab Government launched a Student Teacher Internship Programme to address the issue of unequal teacher distribution, under which it aimed to hire 12,500 teachers for a period of nine months in schools with teacher shortages. Such policies are devised at the provincial level and need to be evaluated to assess if they cater to the unique requirements at the district and school levels.

2. **Teacher performance evaluations:** Teachers are pivotal in delivering and implementing educational goals. A strong accountability system would closely align teacher performance evaluation and incentivisation with student learning and educational goals; however, this is not the case in Pakistan, where teachers' career progression depends on qualifications and years of service, and not on their ability to improve students' learning achievement. Teacher promotions are based primarily on years of service and qualifications. Although all civil servants, including teachers and education officials, are supposed to receive Performance Evaluation Reviews (PERs), most teachers receive neutral ratings, and these evaluations are not linked to student learning outcomes. A research study on improving school accountability in KP (Habib, 2015; Asad *et al*., 2025) piloted an inspections and evaluation system that connected teacher promotions to student learning and educational outcomes. The study identified several institutional and operational challenges and emphasised the importance of distinguishing between mentoring and monitoring by district officials for effective teacher accountability.

3. **Non-teaching workload burden:** A major problem across the country is that teachers have not been provided relied from duties that are unrelated to and do not support instruction-related activities, such as participating in polio and dengue campaigns, election duties, litigation-related activities, and other tasks that take time away from their time the classroom. Evaluations need to take account of the time teachers get to spend on activities that help to bring about desired academic results, as opposed to the time they are required to spend on other administrative duties.

4.      **Parental and community involvement**: Formal mechanisms, such as parent–teacher associations and school management committees, remain underutilised, often due to limited awareness, insufficient capacity building, and lack of clear roles in decision-making processes. Strengthening these community platforms by explicitly integrating them into school management structures, providing clear guidance on their responsibilities, and actively soliciting their feedback on educational policies could substantially enhance local accountability and responsiveness.

5.      **Funding and resource allocation accountability combined with teacher accountability:** School spending is more likely to generate returns when it is tied to outputs. Mbiti (2016) demonstrated that increased education spending, in the absence of accountability, such as through teacher incentives, does not necessarily translate into improved learning outcomes. In Pakistan, provincial education budgets largely cover recurrent expenditures, such as salaries, with minimal resources directed towards quality enhancement or educational innovation. The lack of access to data on education financing means that appropriate authorities are not monitoring the use of funds or studying spending patterns to improve future policies (Manzoor *et al.*, 2024). Without effective oversight and rigorous assessment of expenditure impacts, there is little pressure on administrators or school leaders to optimise resource use. Implementing transparent and outcome-oriented budgeting, linked directly to measurable improvements in student performance, could significantly enhance accountability and ensure more strategic allocation of education resources.

Existing evaluation practices provide little actionable feedback or meaningful differentiation among teachers, undermining incentives for professional improvement. Introducing comprehensive, classroom-based evaluation metrics focused explicitly on instructional quality and student achievement can significantly strengthen teacher accountability mechanisms.

# Section 3: Review of existing data for accountability

This section provides an overview of key datasets (listed in Table 2) related to education learning outcomes and accountability measures in Pakistan, that may inform the extent to which good-quality measures for school output and inputs are available in Pakistan. This information can be used to provide the foundation for implementing teacher and school performance systems and ensuring continuous improvement in learning outcomes.

## Overview of key datasets in Pakistan

The **EMIS** is the official, recurring administrative database that contains information about public schools across the country. District-level EMIS cells gather data via the Annual School Census and relay these data to the provincial/regional EMIS units. The data are then compiled at the country level, with the additional aim of creating more standardised means of data collection. The NEMIS database features consolidated data from annual provincial and federal education censuses. The system records data only for public schools in Pakistan (Pakistan Education Statistics, 2021–2022).

Pakistan's EMISs have primarily been utilised for reporting purposes, rather than for driving improvements within the education sector. Despite the extensive data collected through EMISs, there is minimal evidence to show it is used to directly enhance the quality of schools. The focus remains on generating statistical snapshots, such as on enrolment rates and literacy levels, without translating this information into actionable strategies for school development. While teacher and student attendance are recorded on a monthly basis, traditional EMIS operations have relied on Annual School Censuses, which delays access to up-to-date information and hampers timely decision-making and the ability to respond promptly to emerging educational challenges. Moreover, monthly data from schools are not fully taken advantage of to inform school improvement strategies. The EMIS data gathered often remain underutilised, missing opportunities to address issues such as student attendance, teacher performance, and resource allocation effectively (Muzaffar, 2023).

Each province maintains its own EMIS database:

**Punjab:** The SIS software is used by schools to self-report data on students, teachers, and school facilities, by means of Android tablets. Students are identified by their parents'/guardians' Computerised National Identity Card (CNIC). Managed by the Programme Monitoring and Implementation Unit (PMIU), and in collaboration with the SED, data are collected for relevant indicators such as enrolment, sanctioned and filled teacher posts, teacher/student attendance, and school infrastructure and facilities. Schools in the province report the required data on the same day using the SIS application (with a physical copy also submitted to the AEO or the District Monitoring Officer, depending on the school level.

**Sindh:** The Sindh EMIS (SEMIS) uses the Annual School Census to gather public school data on student enrolment, infrastructure, and human resources through a structured questionnaire that is completed by the end of October each year (School Education & Literacy Department, Government of Sindh, 2023–24).

In Sindh, the Annual School Census is carried out by the Reform Support Unit (RSU) under the School Education and Literacy Department, which also manages the SEMIS. Data collected include data on school-level details, student enrolment, teachers, and school infrastructure. Data collection is carried out by trained teachers selected via the NTS, who visit schools and manually fill out a form with the school information. This information is digitised, validated, and verified by the district EMIS cell, with more cleaning, processing, and analysis carried out by the SEMIS team.

**Baluchistan:** The Policy Planning and Implementation Unit (PPIU) carries out the oversight and management of the Annual School Census and EMIS database, Baluchistan EMIS (BEMIS) manages the data collection and data validation, while the Performance Management Cell carries out data processing and analysis. Head teachers (trained by the PPIU) distribute paper-based forms to teachers, who use them to gather school data, including on facilities and infrastructure, student enrolment, teachers and non-teaching staff, and the activity of the Parent Teacher School Management Committee (PTSMC). EMIS questionnaires are sent to schools and returned to the nearest EMIS cell for validation and entry of data into the EMIS database,

followed by digitisation and verification by the district EMIS cells (School Education Department, Baluchistan, 2023-2024).

**KP:** Like Punjab, KP has a digitised system for data collection. The Annual School Census and management of the EMIS database are carried out by the Khyber Pakhtunkhwa Education Monitoring Authority (KPEMA). Data collected include information on the school, on student enrolment, on teachers, and on school facilities (following the UNESCO Institute for Statistics guidelines). Data Collection and Monitoring Assistants record school-level information in forms using tablets, which is then aggregated by KPEMA. The report on the Annual School Census of 2023–2024 provides an overview of school enrolment, student disability, sanctioned and filled teacher posts, gender parity for different school levels, student retention, student repetition/transition rates, school ownership, and school infrastructure and facilities.

**ASER**, a citizen-led survey, conducts comprehensive testing of students' skills in their sample. In particular, they test students on competencies based on the Grade 2 national curriculum. In the latest survey, 56% of children enrolled in Grade 5 in all urban districts could read a story in Urdu/Sindhi, 63% could read sentences in English, while 63% could do two-digit division. Only 50%, 54%, and 46%, respectively, of their counterparts in rural areas could do the same (ASER National Report, 2023). The 2023 ASER report notes a decline in student learning outcomes after the COVID-19 pandemic and the 2022 floods.

**Multiple Indicator Cluster Surveys (MICSs)** are carried out through face-to-face interviews with household members. The MICS 6 survey was conducted in 2017–2018 by the Bureau of Statistics, Punjab, in collaboration with the United Nations Children's Fund (UNICEF), as part of the Global MICS Programme. The survey covered households in all four provinces in the country. A summary of the MICS 6 survey sample is provided in Table A1.2. in Appendix 1.

The **Pakistan Social and Living Standards Measurement (PSLM)** survey surveyed 195,000 households from 6,500 urban and rural areas in 2019–2020, through household surveys. The PSLM is designed to provide social and economic indicators in alternate years that are representative at provincial and district levels, respectively. Importantly, the household data cover children's schooling outcomes.

**Household Integrated Economic Surveys (HIESs)** collect information on income, education, information and communication technology (ICT) use, health, welfare, housing, food insecurity, and other social indicators, and the consumption of items across rural and urban areas of all four provinces.

The **NAT** is administered by the National Assessment Wing of PIE every two years to test students in Grades 4 and 8 on their proficiency in English, maths, science, Urdu, and Sindhi. In 2023, the NAT covered 1,283 public schools (over 23,000 students) across the country, who were tested on Grade 4 maths, English, and Urdu/Sindhi, and evaluated based on Student Learning Outcomes (SLOs) from the 2020 and 2022 National Curricula.

Assessments form an important component of accountability systems. The Sindh Education Department introduced a Standardised Achievement Test (SAT) in 2012 under the Sindh

Education Sector Reform Project (SERP). The test was conducted in mathematics, science, and languages (Sindhi, Urdu, and English) and administered by a local university for Grade 5 and grade 8 students across the province. The assessment results were released several years later and revealed that, except for the major city of Karachi, in all other cities less than 29% of students passed (Rizvi, 2019).

Although all provinces have introduced student assessments in one form or another, their findings are not used to make improvements.

**Learning and Numeracy Drive (LND)** data was collected by the Punjab Information Technology Board (PITB) in collaboration with the SED in 2015. During school visits, Monitoring and Evaluation Assistants randomly select seven Grade 3 students for testing in Urdu, English, and mathematics, via a tablet-based assessment application. Monitoring and Evaluation Assistants visit three to four schools per day so that over 90% of schools in a district are visited at least once in a month, though schools in need of support may be visited more frequently. The results of the tests are uploaded in real time to a central dashboard. LND '*Kitabchas'* (practice tests) were also developed for teachers as a student practice resource. The LND tool provided real-time data to monitor school- and district-level performance, identify learning gaps, and guide targeted interventions and teacher support. It also served as a proxy for system accountability and improvement in basic literacy and numeracy skills aligned with SDG 4.1.1(b). Furthermore, LND also helped identify and eliminate ghost schools and teachers, and fake admissions (Daily Times, 2018). The quality of the LND tool can be further developed and incorporated into accountability systems using the administrative systems already in place.

The **Classroom Observation Tool (COT)** was developed by Quaid-e-Azam Academy for Educational Development (QAED) to collect data on 11 teaching practices and students' 'time on task'. AEOs are required to use the Classroom Observation Tool application to collect observational data for at least two classrooms per school every month. The PMIU has access to the classroom observation data, which are then analysed and used in teacher group meetings for peer-to-peer learning and teacher support (I-SAPS, 2023).

The **Punjab Examination Commission (PEC)** was established in 2006 and thereafter conducted exams on a quarterly basis for Grades 5 and 8 in public and private registered schools. In 2025, PEC was merged into a newly formed organisation, the Punjab Education Curriculum Training and Assessment Authority (PECTAA). Using an Item Bank System (IBS) aligned with the approved curriculum and student learning goals, PEC exams are now required for all primary and middle school grades at the end of the school year. Results of the exams are discussed with parents a month later. Although these internal assessments are conducted fairly regularly, marking of exams is not monitored. Moreover, data from PEC results are not used for providing feedback on teaching methods and lesson plans, or tracking student progress.

**Table 2: Key datasets used for education accountability**

| Dataset and key indicators | Current and potential usage in accountability | Gaps and weaknesses | Frequency and type of data collection | Latest data available |
|---|---|---|---|---|
| **EMIS** (enrolment, teachers, school infrastructure etc.) | - Used for DSF and aligned with SDG4<br>- Can be used for school planning<br>- Can be used at the district and school levels to provide support to schools based on enrolment, teacher presence, and school facilities<br>- Can be aligned with learning and assessment data | - Data quality issues<br>- Need third-party verification for accuracy | - Census data<br>- Collected annually in October | 2024 |
| **ASER** (Grade 2 learning levels of children aged 5–16 (citizen-led)) | - Used by development partners<br>- Can be used for ensuring greater public awareness<br>- Can be used to triangulate official and independent learning data (e.g. NAT, PEC) at the district and province levels | Not officially recognised | - Household survey<br>- Done every one to two years | 2023 |
| **PSLM** (education and social indicators) | - Can be used in national reporting<br>- District-level deprivation indicators can be used by province-level actors to identify underperforming areas and prioritise visits/funding/other support | No longitudinal tracking and limited frequency | - Nationally representative sample of households<br>- District and provincial levels alternate each year (detailed modules rotate every two to three years) | - 2018/19<br>- 2024/25 data not currently available |
| **MICS** (household surveys, child education) | - UNICEF-led, used by federal and development agencies, household perspective<br>- Can be used at the provincial level by integrating MICS data with other datasets for initiatives related to equity and for financing, policy design, curriculum planning and quality assurance, which can be used in accountability frameworks. | Limited frequency | - Province-level surveys<br>- Done every one to six years (timing varies for provinces) | - Punjab: 2017-18<br>- Sindh: 2018-19<br>- Baluchistan: 2019-20<br>- KP: 2019<br>- MICS 7 in progress |
| **HIES** (education and household income) | - Used by federal agencies and in socioeconomic research<br>- Can be used at the district/*markaz* level to target under-resourced areas | No direct education impact | - Nationally and provincially representative sample<br>- Intermittent quarterly data collection plan for 2024-25 round | - 2018/19<br>- 2024/25 data not currently available |
| **NAT** (national student assessments) | - Used by federal agencies, PIE, provincial departments, and development partners<br>- Can potentially be used as a provincial progress tracking tool<br>- Can be used to track district-level performance and plan teacher deployment, infrastructure funding, and targeted interventions | Not yet aligned with global benchmarks | - Nationally comparable learning data for Grade 4 and/or Grade 8<br>- Collected every two years<br>- NAT 2025 behind schedule | - 2023 report<br>- Data available upon request |

| | | | | |
|---|---|---|---|---|
| **COT** (data on 11 teaching practices) | - Can be refined for use as a tool for feedback and improvement of instruction at the school and district levels<br>- AEO reports potentially inform improvement in mentoring, and teachers' professional growth | Limited reporting of findings available for feedback | - At least two classroom observations per school per month | - Data not available |
| **LND** (school-level Grade 3 student scores for English, maths, Urdu) | - Has helped identify ghost schools<br>- Currently limited use in policy action, can be used at district and school levels for learning progress evaluations<br>- LND *Kitabchas* practice tests can be revised in response to feedback | - School-level averages only for Grade 3 students<br>- Gaps in data collection | - District officials collect sample of seven students from Grade 3 per school visited in Punjab | - October 2016–2023 |
| **PEC** (item-based quarterly internal exams in primary and middle schools) | - Used at the school level<br>- More use of report cards; currently, results are only discussed with parents but are not integrated in school planning or for tracking progress of students<br>- PEC results can be used to plan remedial instruction at the school or classroom level | Grades 5 and 8 since 2006; Grades 1–8 in 2025 | System-generated papers available to schools for downloading and printing | 2006–present |

Th Annual School Census data are collected regularly for all provinces and can form the basis of efforts to develop a meaningful education accountability system. In order to build accountability and support systems for improved results data on student learning need to be incorporated into and aligned with administrative monitoring data on schools. To ensure the reliability of data used in accountability systems, it is essential to conduct independent audits of school and student performance to check the accuracy of administrative data.

Each province needs to define important educational goals, the indicators required to measure them, and the data collection needed to track progress and provide feedback. Measures such as the DEPIx index can be used to define priorities by assigning higher weights to specific desired outcomes, such as high school completion, uplifting disadvantaged rural areas, lower dropouts, or greater proficiency levels in certain subjects. Further improvement of data from assessments such as the COT, LND, and PEC, and report cards, can help in developing robust measures of student learning and classroom teaching quality. Districts and designated officials at various administrative tiers, such as AEOs, could track progress according to objectives set jointly with the provinces, using existing datasets that can be refined and revised to align closely with accountability goals.

**Use of national assessment data for school accountability**: Various countries have different levels of usage of administrative and assessment data to improve learning and education outcomes. In India, the National Achievement Survey (NAS) provides periodic nationwide assessments of student learning levels. Although primarily used for internal decision-making rather than public accountability, NAS results are analysed to identify priority areas for curriculum reform, teacher training, and remedial programming (UNESCO, 2018). In some Indian states, NAS findings feed directly into district-level improvement plans, creating a

performance feedback loop, even if formal high-stakes accountability is not imposed. Similarly, citizen-led assessments, such as ASER, although not government-administered, significantly shape the policy discourse on learning outcomes, pushing governments to adopt remedial interventions and adapt pedagogical strategies.

In contrast, Pakistan's national assessments (such as the NAT) and provincial large-scale assessments are inconsistently used to inform classroom practice, professional development, and school improvement planning. Assessment data largely remain disconnected from accountability structures, resulting in missed opportunities for system-wide reform.

## Lessons from India, Bangladesh, and Kenya on using EMISs for decision-making

- In India, the evolution from the Unified District Information System for Education (UDISE) to UDISE Plus (+) has transformed school-level data collection by establishing a real-time digital platform under the Ministry of Education. Enhanced features like GIS mapping allow for the identification of underserved areas, thus enabling targeted interventions. UDISE+ incorporates third-party verification to safeguard data integrity. It feeds data directly into state and district education planning processes, linking information to resource allocation and programme design (UDISE+, 2024). Tools like school report cards seek to close the accountability loop by making school-level data available to parents and communities, even though awareness and use of these data remains uneven.
- In Bangladesh, the Bangladesh Bureau of Educational Information and Statistics (BANBEIS) system serves as a centralised platform for education statistics, closely aligned with the country's SDG4 targets. BANBEIS supports education planning and it also tracks progress against national indicators for access, equity, and learning outcomes (BANBEIS, 2023). The Bangladeshi Government uses BANBEIS data in its Annual Development Plans to allocate resources and monitor district and sub-district performance.
- In Kenya, the introduction of the National Education Management Information System has helped bring about a shift towards learner-centred accountability by assigning unique identification numbers to students and tracking their progression through the education system. Data from the system are used to inform policy interventions, such as textbook provision, school infrastructure planning, and bursary distribution. Additionally, Kenya's participation in communities of practice sessions, coordinated by the Global Partnership for Education-KIX and UNESCO International Institute for Capacity Building in Africa (UNESCO-IICBA), has strengthened collaborative learning and innovation in education data use. Under Vision 2030, the Government of Kenya also plans to establish county-level EMIS centres, reflecting a strong political commitment to decentralising accountability and making data usage more responsive and transparent.

While Pakistan's EMISs have improved in coverage and frequency, their use in strategic decision-making, school improvement, and public accountability remains limited and

fragmented. Compared to international examples where EMIS and assessment data increasingly feed into dynamic cycles of feedback, planning, and accountability, Pakistan's initiatives remain largely internal to government bureaucracies. Public engagement with data, links to teacher or headteacher incentives, and real-time responsiveness to learning outcomes remain underdeveloped. Moving forwards, deeper institutionalisation of data use across planning, pedagogy, and public accountability will be critical for unlocking the full potential of Pakistan's growing data infrastructure.

## Challenges in data usage

1. **Data reliability issues:** Checking the quality of administrative data should be part of accountability processes, in order to obtain accurate assessment and monitoring results. More evidence is needed on the reliability of EMIS and assessment data in Pakistan. A study in India revealed that independent testing of students showed lower achievement levels compared to the results of official large-scale exams, and that cheating was difficult to control with paper-based assessments, invigilated by teachers (Singh, 2020). Similar studies need to be conducted for school data in Pakistan. Concerns have also been raised about the reliability of ASER data, due to surveyor inexperience, their limited scope in capturing broader learning outcomes, and sustainability issues. Furthermore, discrepancies between ASER data and official data can sometimes reduce the policy impact of the initiative. Any interpretation of ASER results must be mindful of these factors.

2. **Low utilisation of administrative data:** Pakistan's EMISs are primarily utilised for reporting purposes, rather than for driving improvements within the education sector. This approach has led to several shortcomings in regard to effectively enhancing educational outcomes.

The NEMIS aims to harmonise and integrate data from EMIS units at the provincial and regional levels. EMIS cells at the district level collect school-level data via an Annual Census and share them with EMIS units at the provincial or regional level. District-level data from these units are then consolidated in the NEMIS, which handles information at the national level. Coordinating and maintaining national-level educational data comes with some challenges. The NEMIS needs to be able to handle disparities between questionnaires/surveys across provinces and other inconsistencies in data to ensure that the integrated data are reliable and hold validity. To provide a complete picture of the country's education system, the NEMIS also handles issues relating to the availability of data from private schools.

If data from the NEMIS are to inform provincial-level education policy, it needs to receive and analyse accurate data in a timely manner, which may be a challenge since the frequency of data collection and consolidation of data may differ across provinces. Furthermore, useful insights from these data also need to be shared among provincial governments so that provinces may learn from each other's successes (or failures) relating to data based decision-making and policy development.

Similarly, while results from the PEC's large-scale assessments provide insights into student and teacher performance, highlighting gender-based differences, cognitive domain achievements, factors affecting learning outcomes, and other school-level variables, there is no evidence to suggest that these insights are used as a benchmark for future assessments and policy decisions, especially those related to helping to refine teacher training, curriculum development, and school improvement strategies. PEC aims to align future assessments with global proficiency standards to track progress towards SDG 4.1.1 (minimum proficiency in reading and mathematics) (Punjab Examination Commission, 2024).

# Section 4: Identifying gaps in education data for accountability

## Gaps in data collection

1.      **Absence of reliable measures of student learning and progress over time:** There is a significant lack of reliable data on student learning outcomes. Currently, the ASER survey is the only source used to assess language (Urdu/Sindhi/Pashto), English, and arithmetic proficiency for children aged five to 16 years. However, these tests are based only on the curriculum for grades 1 and 2. Efforts to address this gap, such as the LND and quarterly assessments using PEC tests, have provided some data, but these are not adequate for measuring students' learning achievements in a reliable and comprehensive way.

2.      **Absence of panel data:** Enrolment data currently lack comprehensive information on grade repetition or transition. Collecting educational history or panel data on children would enable the construction of these measures for representative groups. Data tracking students' learning and education achievements and progress over time are also not available. These data are important for ensuring accurate teacher value-added measures, to help policymakers design effective teacher incentivisation structures.

For instance, the Learning and Educational Achievement in Pakistan Schools (LEAPS) study (2004–2011) in rural Punjab tracked children's enrolment and learning over time and provided valuable insights into the effects of private schooling and household characteristics on learning outcomes. Yet no government system has replicated such a panel-based approach, and most national surveys remain cross-sectional. The lack of panel data limits the ability to evaluate the long-term impacts of policy interventions, such as teacher hiring reforms or curriculum changes.

3.      **Limited teacher quality metrics:** There is a significant deficiency in regard to data on teacher and school performance. Datasets rarely include teacher assessments, classroom observations, or objective measures of teacher effectiveness.

While Punjab uses the COT in primary schools, it does not feed into a national database or inform teacher appraisal in any formal way. Furthermore, the quality, reliability, and regularity of COT data collection has recently invited some scrutiny. Similarly, KP's Education Monitoring Authority collects basic teacher presence data but does not observe classroom processes.

Without structured, standardised observation data, understanding variations in teaching quality and tailoring professional development remains extremely difficult.

4.      **No systematic data on marginalised groups:** The current education-related datasets do not prioritise equity and inclusiveness, with limited measurement of disability and minority status. Additionally, there is a lack of focus on religious or ethnic marginalised groups, and existing datasets do not oversample such populations. While the ASER survey includes a disability module and has piloted adapted assessments for children with visual and hearing impairments, these efforts remain limited in scale and periodicity. The EMIS datasets from provinces such as Sindh and Punjab include fields for disability, but reporting is inconsistent and often reflects enrolment rather than learning or progression. Moreover, no existing data systematically track enrolment, learning, or school facilities for nomadic or seasonal migrant children – groups that are highly vulnerable to educational exclusion.

During a key informant interview, one informant suggested that existing grievance redressal systems could significantly enhance accountability for marginalised groups. For instance, Punjab's Performance Delivery Unit (PMDU), established in 2013, operates an online citizen portal where teachers, parents, and community members can report issues such as corruption, misconduct, or other school-related concerns. However, the portal's impact is limited by the absence of a systematic process for analysing complaints and responding to them effectively. Strengthening this mechanism could be instrumental in safeguarding marginalised communities and promoting greater accountability in schools.

## Gaps in data utilisation

1.      **Weak enforcement of data-based accountability:** District administrations are not decentralised and are unequipped to use school-level data for decision-making, feedback, and support to schools. While various datasets are available, such as provincial large-scale assessments, EMIS, and citizen-led surveys, these are not consistently used to inform policy or practice. For example, while the large-scale assessments conducted by the PEC in Punjab provide valuable insights into student learning across grades and subjects, their results have so far not been systematically used to inform improvements in classroom practice, continuous professional development for teachers, or curriculum and textbook refinement.

The limited integration of assessment results in core educational processes reflects a broader problem of institutional silos. Assessment bodies, curriculum authorities, teacher training institutions, and textbook boards often operate independently, with minimal coordination or shared accountability for outcomes. This lack of cross-functional collaboration diminishes the utility of learning data and undermines the potential of assessments to drive systemic improvement. As a result, even when data highlight specific learning gaps, these are not addressed through instructional planning or resource allocation.

## Recommendations to enhance data-based accountability

1. **Create a unified education data portal:** A centralised, publicly accessible education data portal should be developed that consolidates key datasets, including EMISs, large-scale assessments, and survey-based learning assessments (NAT, provincial large-scale assessments, the Foundational Learning Study (upcoming)). Consolidation of data is likely to reduce fragmentation and support decision-making, as well as policy research. The portal should include user-friendly dashboards that provide disaggregated data (by gender, location, and disability).

2. **Institutionalise digital tracking of teacher attendance, classroom practices, and student learning:** Building on existing EMISs and classroom observation tools, provinces should improve/upgrade the existing systems to digitise real-time tracking of teacher attendance, student presence, and classroom instructional quality. Classroom observation data should feed into school performance dashboards and inform both school-level improvement planning and district support strategies. Digital tools should be embedded in professional development and coaching frameworks as well.

3. **Link assessment data directly to continuous professional development, curriculum review, and resource planning:** Assessment results from PEC and NAT, and other evaluations, must be systematically analysed to inform the design of continuous professional development programmes, guide curriculum and textbook revisions, and shape remedial interventions at the school level. Regular coordination mechanisms between assessment bodies, curriculum developers, teacher education institutions, and education departments are needed to break operational silos and create feedback loops that link learning evidence to system-wide reforms.

4. **Improve district-level capacity for data analysis and use:** Dedicated education data officers at the district level should be appointed and trained to interpret EMIS and assessment data for local planning and accountability. These officers should work closely with school clusters to translate data insights into practical improvement strategies. District education authorities should be empowered not only to collect but also to act on data to close learning gaps and improve teacher deployment and resource allocation.

# Section 5: Political economy of education

Efforts to strengthen education accountability in Pakistan, as elsewhere, are shaped by political economy dynamics that define who makes decisions, how resources are allocated, and what incentives guide the behaviour of key actors within the system. Even when robust data systems are in place, their impact on education service delivery depends on the broader institutional, bureaucratic, and political landscape in which they operate.

## Structural constraints

1. **Civil service protections limit the enforcement of accountability mechanisms:** Teachers in government schools are civil servants whose terms of service are governed by

provincial civil service rules. These rules make teacher accountability extremely difficult, even in cases of chronic absenteeism or non-performance. While many provinces have moved towards merit-based teacher recruitment through entry testing, such as the NTS, there remains no clear pathway for holding teachers accountable to high standards of professional conduct. As a result, performance management mechanisms are weak, and teacher evaluations (such as PERs) do not influence career progression or contract renewal.

2.      **High bureaucratic turnover disrupts continuity and weakens reform implementation:**
Senior education officials at the provincial and district levels often serve brief tenures before being rotated out. This hampers institutional memory and adversely affects long-term reform trajectories. For instance, DEOs rarely stay in post long enough to interpret and act on school performance trends, and newly appointed officials often prioritise short-term reporting over long-term capacity building.

3.      **Decentralisation without devolution of authority weakens local accountability:**
While the 18th constitutional amendment devolved education responsibilities to provinces, many provinces have not devolved corresponding authority and resources to district-level education management. As a result, officials responsible for school-level outcomes lack decision-making power over budgets, staffing, and professional development, leading to accountability gaps.

## Interest group influence

1.      **Teachers' unions shape hiring, transfers, and policy decisions:** Teacher unions are powerful actors in all provinces. They often negotiate directly with provincial governments and sometimes influence teacher postings, transfers, and even hiring (Rehman, Ahmed, and Khan, 2024). In Punjab and KP, union pressures have shaped transfer policies, and protests have sometimes delayed education reform agendas (Express Tribune, 2025). The politicisation of unions, and their alignment with local parties, can obstruct reform implementation, particularly when reforms threaten existing privileges (Rana, 2014). At the same time, unions can positively represent teachers' voices and advocate for better working conditions.

2.      **Political interference undermines merit and weakens accountability systems:** In many jurisdictions, the elected representatives and influential local actors retain informal control over school management, including appointing head teachers, allocating development funds, and approving school-level expenditures. This politicisation discourages data-driven decision-making and often results in distorted resource allocation. For example, this may lead to overstaffing in politically connected schools while remote schools remain under-resourced.

3.      **Fragmentation between departments and a lack of policy coherence:** Curriculum authorities, teacher training institutes, assessment bodies, and education departments often operate in silos, with little collaboration or data-sharing. This institutional fragmentation reduces the effectiveness of accountability measures, even when data are available. In Punjab, the creation of PECTAA is intended to address this by integrating curriculum development, textbook

development, assessment, and teacher professional development under one body. However, similar institutional realignments are lacking in other provinces.

## Governance recommendations

1. **Introduce performance-linked school funding**
Provincial governments should consider piloting models where school funding is partially linked to student learning outcomes and equity indicators, with safeguards to avoid perverse incentives. These models should reward improvement rather than absolute performance and should be accompanied by capacity building for underperforming schools. Models such as SIF and DEPIx should be adapted for this purpose.

2. **Strengthen district education authorities with clear mandates and resources**
Districts should be empowered through legal mandates, capacity development, and operational autonomy to use data for school improvement, resource allocation, and teacher deployment. This includes building local analytic capacity and allowing greater discretion in designing school development plans.

3. **Institutionalise stakeholder dialogue**
Formal platforms for regular dialogue between policymakers, unions, school leaders, and civil society can help align interests and depoliticise key decisions. These forums should be grounded in transparency, with shared reviews of performance data and collective priority-setting for reforms.

# Section 6: Recommendations for strengthening accountability systems

Strengthening education accountability in Pakistan requires technical reforms in data systems and institutional reforms that enable meaningful data use. The following recommendations are structured across short-term, medium-term, and long-term measures to reflect the different timelines and capacities required for implementation. These proposals are grounded in the above discussion.

## Short-term measures (within one to two years)

1. **Develop a transparent teacher evaluation framework:** A nationwide framework for evaluating teacher performance should be introduced that includes multiple metrics such as student learning gains, classroom observations, and attendance data.

2. **Provide support to teachers and stakeholders being assessed under accountability frameworks**: Rather than linking teacher accountability to punitive measures, teacher evaluation frameworks must be linked to clear feedback loops for continued support and

improvement, such as continuous professional development, more teacher time dedicated to learning, and other resources.

3.      **Standardise data collection across provinces:** Current efforts to develop DSFs can be used to clarify and define provincial educational goals and align measures and indicators more clearly to these goals. While each province maintains its own EMIS, standardising key indicators, definitions, and reporting formats would facilitate inter-provincial comparisons and support national-level planning. Coordination through the Inter-Provincial Education Ministers Conference (IPEMC) and technical bodies like PIE is critical.

## Medium-term measures (within three to five years)

1.      **Introduce independent third-party audits of school performance:** Current internal assessment and monitoring systems, such as the quarterly assessments carried out under PEC, are vulnerable to manipulation, especially when peer teachers are responsible for checking performance within or across nearby schools. Independent audits of student learning, attendance, and school infrastructure, possibly led by academic or civil society institutions, can provide credible validation of reported outcomes and guide resource targeting.

2.      **Digitise real-time monitoring of attendance and teaching practices:** Use mobile-based digital tools to track teacher attendance, instructional time, and classroom interactions. These tools can be deployed by field-level monitoring staff (e.g. AEOs) or school heads and can be linked to feedback systems that prompt support and coaching, rather than just compliance. Real-time visibility can help identify schools that need immediate intervention.

## Long-term measures (five-plus years)

1.      **Alignment with global benchmarks**: Align national assessments with global benchmarks and learning progressions. Pakistan's participation in international assessments like TIMSS should be supplemented with developing a national assessment framework aligned with SDG4 indicators. Assessments such as those conducted by PEC and PIE should adopt learning progressions and minimum proficiency levels for key stages, to ensure that results are internationally comparable and policy-relevant.

2.      **Decentralise accountability frameworks to district and sub-district levels:** Effective accountability cannot be achieved through top-down systems alone. Districts, tehsils, and school clusters must be empowered with data, decision-making authority, and financial autonomy to act on local learning needs. This includes training district officials in data use, linking EMIS/assessment data to school improvement plans, and incentivising problem-solving at the local level.

## Cross-cutting enablers

1.      **Establish coordination mechanisms across curriculum, assessment, and teacher training agencies:** Institutional silos between curriculum boards, textbook boards, assessment bodies, and teacher training institutes must be dismantled. Coordination bodies such as Punjab's PECTAA can serve as models for other provinces in regard to aligning goals and data use across domains.

2.      **Promote stakeholder participation and public transparency:** Parents, school councils, and local communities should be engaged in reviewing school performance data through accessible report cards and public dashboards. Localised information about school performance can drive community-based accountability and reinforce the demand for quality education.

# Section 7: Recommendations for future research

Developing stronger education accountability systems in Pakistan requires a sustained agenda of applied research that informs policy design and system implementation. Based on the gaps identified in this paper and emerging lessons from comparative experiences, the following priority areas for future research are proposed:

### 1. Strengthening teacher accountability through better metrics and incentives

Future research should examine the design and impact of teacher evaluation systems that link multiple performance measures, such as student learning progress, classroom practices, and time-on-task indicators, with professional development and career progression pathways. Pilot studies assessing the effect of structured classroom observation tools on teacher performance in different provincial contexts would generate valuable evidence for scaling teacher accountability mechanisms.

Additionally, studies could evaluate how current systems of teacher induction, appraisal (e.g. PERs), and promotions can be reformed to reward actual teaching effectiveness rather than merely qualifications and seniority.

### 2. Assessing the effectiveness of district-level accountability reforms

Research is needed to evaluate the actual use and effects of district-level data-based accountability systems, such as the District Performance Score (DPS) and Intra-District Performance Score (IDPS) in KP, and the SIF in Punjab. Investigating how these tools influence district decision-making, resource allocation, school support, and remedial interventions can inform the next generation of decentralised accountability models.

Future empirical studies should focus on understanding the barriers to effective district-level data use, including capacity constraints, incentive structures, and political interference.

### 3. Exploring the role of parental and community participation in accountability

There is significant scope for studying how parent–teacher associations, school councils, and citizen-led initiatives (e.g. ASER) can better integrate into formal accountability mechanisms. Research questions could include the following:

- What types of community engagement (information sharing, participatory monitoring, grievance redressal) most effectively drive improvements in school quality?
- How can school-level report cards or dashboards be designed to empower communities to hold schools accountable for learning outcomes?

### 4. Investigating the link between funding flows and school performance

Future studies should explore how financial accountability mechanisms, such as school-based budgeting, conditional grants, or performance-linked funding, impact school management and student learning outcomes.

While Pakistan's education budgets are heavily skewed toward recurrent costs like salaries, research can be undertaken to show whether more flexible, performance-sensitive funding models could enhance equity, efficiency, and learning.

### 5. Building data systems for tracking equity and inclusion

Research must address the current underrepresentation of marginalised groups (e.g. children with disabilities, ethnic and linguistic minorities) in administrative and survey data. Studies are needed on how best to design EMISs and learning assessments that systematically capture all children's schooling experiences and learning outcomes, and how these data can be used to promote equitable accountability at school, district, and provincial levels.

### Expected policy implications

Addressing these research priorities would generate critical evidence to:

- guide improvements in teacher management, professional development, and deployment policies;
- strengthen district-level education governance and resource planning;
- design more effective community engagement strategies to ensure local accountability;
- inform innovations in education financing linked to learning outcomes; and
- ensure more inclusive, equitable education policies by improving the granularity and usability of education data.

# Conclusion

This paper highlights several shortcomings in the accountability mechanisms in Pakistan's education system. Most importantly, increased learning achievement for the majority of students is not at the centre of the education system. In Pakistan, schools struggle to equip students with

the skills needed for both personal and societal development. Moreover, the public education system largely fails to reach disadvantaged households or to address the deep inequalities that exist across provinces and districts. Overall education expenditure as a percentage of GDP remains low compared to other countries and the existing spending is often inefficient due to a weak link between resource allocation and measurable educational outcomes. Establishing a stronger and more effective accountability system could enhance the impact of current investments and lay the foundation for greater improvements in student learning as education budgets expand in the future.

A robust education accountability system relies on several core elements: setting clear goals, establishing indicators to track progress, implementing systems with administrative and stakeholder backing, conducting evidence-based evaluations of design and outcomes, and making adjustments based on feedback. Currently, Pakistan faces significant gaps in all these areas. This study provides recommendations for how to strengthen accountability in the short, medium, and long term.

One major issue is the lack of clearly defined learning goals at both federal and provincial levels. Without such goals, accountability systems lack direction. Despite the existence of many dedicated and talented teachers, head teachers, and government officials, the average public school delivers low-quality education, as seen in high dropout rates at the primary level. To address this, accountability systems must focus on improving curriculum quality, instructional methods, and classroom environments. This should be supported by measurable indicators of learning outcomes. Existing frameworks like the SIF and DEPIx could be redesigned to support this goal.

The second area of concern involves developing reliable and comprehensive education indicators, setting performance benchmarks, and building strong data systems. Pakistan has yet to define effective indicators for school participation and student learning. Despite extensive data collection efforts, basic education data remain incomplete and unreliable. Furthermore, there is no independent verification to ensure the accuracy of administrative data on education indicators.

Effective implementation of well-designed accountability systems is another important area that suffers from major shortcomings. District and sub-district administrations across all provinces often lack the expertise, resources, and capacity to use data effectively. Instead of enforcing top-down accountability, a more balanced approach is needed – one that combines oversight with support and that strengthens horizontal accountability so that local actors can address problems and implement solutions.

Poor incentive structures further weaken implementation. Teachers and district officials are not evaluated based on school and student performance, and continued education funding is not linked to measurable outcomes. For instance, no weight is given to student learning or other education outcomes in decisions regarding promotions and salaries, which are based solely on years of service and qualifications. Training, mentoring, and coaching programmes are also

non-existent or not aligned to accountability mechanisms to help bring about desired educational goals. This results in inefficient use of the already limited education budget.

The fifth key component of an effective accountability system is evaluation and feedback loops. It is crucial to assess whether educational goals are being achieved. In Pakistan, independent evaluations are rare, limiting policymakers' ability to revise systems based on evidence, or to scale them effectively. Moreover, a lack of regular feedback loops to inform schools about data and evaluation results prevents important adjustments and revisions in the design and implementation of accountability systems. Data from assessments, such as those conducted by PEC, are not integrated into school planning. This prevents local educators from tailoring improvement plans to their specific needs. Feedback is also essential for informing policymakers about the effectiveness of accountability mechanisms.

Finally, existing accountability programmes fail to tackle growing disparities among different population groups. Rural and remote areas, especially in Sindh and Baluchistan provinces, continue to lag behind other areas. More targeted investments and incentives are needed to improve outcomes in underperforming schools and marginalised communities.

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# Appendix 1: Data sources

Table A1.1. Sources of information for datasets

| Dataset | Source of information |
|---------|----------------------|
| **EMIS Punjab** | • EMIS data provided by PMIU<br>• SIS Punjab website<br>• Integrated dashboard, SED Punjab |
| **EMIS KP** | • Annual School Census 2023-24 |
| **EMIS Baluchistan** | • Baluchistan Education Statistics Report<br>• Baluchistan High School Proforma |
| **EMIS Sindh** | • Sindh Profiling (2021–22)<br>• Sindh Annual School Census 2014-15<br>• Sindh Annual School Census 2023-24 |
| **ASER** | • ASER Coding Manuals |
| **MICS 6** | • Questionnaires |
| **PSLM (2019–20)** | • PSLM data |
| **HIES** | • Pakistan Bureau of Statistics |
| **LND** | • School Education Department Punjab<br>• Dataset provided by PMIU |
| **Other sources** | • Pakistan Education Statistics Report 2021-22 |

Table A1.2. MICS data by province (source: MICS 6 fact sheets)

| | Punjab (2017–2018) | Sindh (2018–2019) | Baluchistan (2019–2020) | KP (2019) |
|---|---|---|---|---|
| Households interviewed | 51,660 | 20,030 | 20,974 | 23,501 |
| Women aged 15–49 interviewed | 74,010 | 30,239 | 36,726 | 40,261 |
| Men aged 15–49 interviewed | 27,094 | 14,790 | 20,057 | 18,253 |
| Children under five mother/caretaker interviewed | 39,799 | 17,978 | 25,442 | 24,143 |
| Children aged 5–17 mother/caretaker interviewed | 35,482 | 14,452 | 17,369 | 19,144 |

# Appendix 2: Summary of key informant interviews

To inform our perspective on education accountability in Pakistan we conducted interviews with two government officials experienced in collecting and monitoring administrative data, and three education sector experts/researchers. We explored current accountability systems in Pakistan's school system and the metrics and data used for effective oversight. Key findings from these interviews are summarised below

### 1. Limited use of EMIS data for accountability

EMIS data are used mostly for teacher rationalisation and transfers, not for creating accountability. Researchers mentioned that the SIS currently in place in Punjab applies the same data collection techniques, involving the usual two or three key indicators, implying that the SIS does not take into account data measures and indicators needed for better accountability. Our qualitative interviews highlighted the need for better 'data architecture' and protocols for how data are collected and managed.

### 2. Accountability systems need to be more aligned with learning outcomes

There was a consensus among key informants that previous and current accountability systems and measures are focused on school infrastructure and teacher attendance, and should be more aligned to learning. Although the informants felt that monitoring systems in KP and Punjab have improved teacher attendance and school infrastructure, they said that student learning is not at the centre of any government accountability system. Referring to a recent privatisation effort in Punjab, one respondent felt that the government's messaging was more about creating employment in schools, rather than student learning. The researcher said that getting good results in learning 'is not so easy – you might have to decentralise and give more authority to the head teacher' and that currently the Secretary of Education basically has to run 50,000 schools in Punjab and so far, the government is trying to address the problem by giving schools to the private sector.' The deep reforms carried out in Delhi schools in India were given as an example of trying to realign schools around learning as they provide a good comparison with Pakistan because conditions are similar. Another interviewee also stated that administrative monitoring data are silent on the quality of classroom teaching and learning. Respondents noted that the COT and LND have the potential to enhance education quality if they are further developed and improved.

### 3. Donor-driven accountability initiatives lack sustainability

Several respondents noted that while some donor-funded projects have introduced effective accountability measures, often under the leadership of competent government officials, their impact tends to dissipate after the project ends. For instance, in KP, when teacher attendance in a monthly continuous professional development event was identified as one of the SIF indicators, it resulted in an increase in teacher attendance in the training programme. Higher teacher attendance, combined with the development of meaningful content in the training programme, resulted in higher student learning results in the districts where continuous professional development was introduced. The interviewee stated: 'The problem is always that when the donor-funded project ends, nobody cares anymore and the system settles back into a kind of equilibrium, and so how do you actually get people to care about accountability based on data in a sustained way?'

### 4. Grievance redressal systems offer potential for accountability, especially for marginalised groups

It was explained that grievance redressal systems could potentially play an important role in protecting marginalised groups. For instance, an online citizens portal at the PMDU in Punjab, established in 2013, allows teachers, parents, and anyone else to send in complaints about misconduct, corruption, or any issue connected to schools. The PMDU receives many complaints and having this portal in place is a way to detect any serious harm to marginalised groups that may occur. However, the complaints need to be sorted and addressed in a systematic way in order to develop better accountability systems.

### 5. High-stakes testing leads to gaming the system

Most interviewees expressed concerns about 'gaming' when accountability is aligned with high-stakes assessments. One suggested simplifying testing to focus on Urdu, English, and maths, using oral tests in early grades and written tests in Grades 4 and 5, as they argued that this would lead to less memorising. They argued that decentralising testing would better reflect local realities. For example, educational contexts in remote districts like Rajanpur differ greatly from those in more urbanised settings in Lahore. According to the informants, more district-level capacity is needed to design context-sensitive assessments, especially in language subjects ('Because in Rajanpur, it's not the same thing as Lahore. There is always a problem when you standardise because you want to compare it across units. But if the underlying unit you are comparing is so different then what's the point of standardising?'). It was felt that there could be variation: some maths tests could be standardised, but in languages more flexibility would be needed, and this would require building more capacity at the district level for incorporating more nuanced tests; this does not currently exist.

### 6. Lack of accountability at higher administrative tiers

There was consensus that accountability is disproportionately focused on teachers, while higher administrative tiers often escape scrutiny. Frequent changes at the top, such as the Secretary of Education changing every few months, undermine continuity. Teachers are also burdened with non-educational tasks, such as dengue monitoring or election duties. A more balanced and clearly defined accountability framework is needed, identifying responsibilities at all levels, from teachers to district and provincial authorities. More clarity is also needed on whose accountability is being looked at in the school systems: teachers, administrators, or district officials. One respondent described how a diffused accountability system designed and implemented for some years under the SIF in KP followed a 'needs-based index', and that whoever had the authority and resources to actually fulfil that need would be accountable.

### 7. Learning from accountability systems in private and non-government schools

It was mentioned that experimenting with public–private partnerships can change the dynamics of education delivery. Moreover, it was pointed out that several low-fee school systems have been implemented by large private education chains, such as Allied Schools, Educators, Smart Schools etc., mainly in urban settings. These chains, as well as not for profit schools such as those of The Citizens Foundation (TCF), have developed effective internal accountability systems and could offer insights for improving accountability metrics in the public system.

### 8. Assessing the role of PIE and centralised data systems at the federal level

The NEMIS data at the federal level are a repository of provincial EMIS data, constituting the largest administrative dataset on Pakistani schools. The aim of the newly restructured PIE is to standardise education measures for cross-comparison across provinces and for participating in international assessments, such as PISA, and meeting the SDGs. PIE developed the NAT in 2023, and also aims to build internal research capacity. However, the authority to develop accountability systems rests solely with the provinces, after the devolution of education under the 18th constitutional amendment in 2010.

**Conclusion**

Our interviews revealed several persistent challenges in developing effective education accountability systems in Pakistan. There was widespread agreement among informants that current monitoring and assessment tools are inadequate for evaluating the impact of education policies and reforms. While there have been several government initiatives supported by international donor-funded programmes to improve education accountability systems, their impact often fades once the funding ends. Respondents stressed the need for meaningful learning indicators and assessments that reflect the progress of students from a variety of backgrounds and regions. Additionally, it was noted that greater accountability for improved outcomes is needed at higher levels of administration, linked to the authorities responsible for providing the necessary resources to meet those educational goals, as accountability is not just limited to the level of teachers and schools.