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Managing Early Learning: Local Bureaucratic Practices and Pre-school Quality in Northern Ghana

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thrive

This report constructs management indices for 54 district education directorates in northern Ghana. It documents high variation in management practices across districts and shows that stronger incentives practices are associated with higher-quality kindergarten teaching.

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Abstract

This study examines the management practices of middle-tier bureaucrats in the Ghana Education Service across 54 districts in northern Ghana. We develop indices capturing district-level practices across four domains: operations, monitoring, targets, and incentives. These are linked to structured observations of kindergarten classrooms and validated against an independent governance benchmark. We document substantial variation in management quality, with incentive-related practices most consistently associated with stronger classroom environments. Our findings suggest that local administrative capacity—particularly around incentives-related practices—may play an important role in shaping early learning quality. The results highlight the relevance of system-level features for improving early childhood education through existing public sector structures.

Introduction

Background

Many low- and middle-income countries, including Ghana, have rapidly expanded access to pre-primary education, partly in response to Sustainable Development Goal (SDG) 4.2, which calls for universal access to quality early childhood development and pre-primary education. However, this initial push for access has increasingly given way to concerns about the quality of service delivery. Evidence suggests that weak classroom processes in early childhood settings can undermine, or even negate, the expected learning gains from expanded enrolment (Araujo *et al.*, 2016; Bold *et al.*, 2017).

Recent research has highlighted the central role of bureaucrats and local government officials in delivering quality public services. As Pritchett (2015) emphasises, understanding education systems through a 'systems framework' requires looking beyond inputs such as funding or staffing to examine how actors within the system—particularly frontline and mid-level bureaucrats—interact to shape implementation. While such work has increased over time, most studies focus on primary and secondary education, leaving a gap in our understanding of the delivery of quality *pre-primary* education. This is particularly salient in low-income settings, where local governments often have very limited resources and where incentives to prioritise early learning may be weaker due to the limited visibility of pre-school outcomes and the absence of standardised assessments.

This study aims to help fill that gap by systematically measuring management practices across 54 districts in northern Ghana and linking them to the quality of pre-school classrooms. In doing so, we provide new evidence on the role of local bureaucratic capacity in shaping early learning environments and identify which management functions matter most for improving service delivery at the pre-primary level.

Northern Ghana is one of the poorest areas of the country, with most families living on less than US\$ 2 per day (Cooke *et al.*, 2016). Child development outcomes are poor: 20% of children under five are stunted and 36% of children aged three to four are off-track cognitively (Ghana Statistical Service, 2019). These early deficits persist through the education system, with fewer than 25% of pupils meeting the proficiency benchmark in mathematics by the end of primary school (Ministry of Education and Ghana Education Service, 2016). While Ghana has adopted relatively progressive early childhood care and education (ECCE) policies—including the introduction of two years of kindergarten into the basic education system in 2008—implementation efforts have thus far largely focused on expanding access, with quality only more recently receiving attention.

Empirically, we make three contributions. *First*, we adapt and operationalise a management measurement framework for the ECCE context in a

decentralised education system in a low- or middle-income country (LMIC). We design a structured tool for Ghana Education Service (GES) District Directors and lower-level district officers (School Improvement Support Officers (SISOs)) that captures observable, context-specific practices across four core domains: operations, monitoring, targets, and incentives. *Second*, we demonstrate significant variation across districts in these domains. *Third*, by linking these district-level management indices to a direct measure of kindergarten classroom quality, constructed from structured observations using item response theory (IRT), we move beyond the test score-based metrics typical of the existing literature.

Substantively, our findings highlight system features most strongly associated with better ECCE environments in the public sector: actionable feedback loops (monitoring that is read and acted upon), clearly defined targets, and incentive mechanisms for frontline actors. By identifying the management dimensions that matter most for the quality of pre-school provision we offer actionable insights into the design of embedded, system-level reforms (e.g. performance feedback protocols, SISO coaching, or simple recognition schemes) that can be delivered through existing education infrastructure.

Previous literature

This study contributes to the growing literature studying management practices among public sector officials and linking them to performance outcomes. This field originated with efforts to explain large, persistent differences in productivity across seemingly similar firms. A foundational study by Bloom and Van Reenen (2007) introduced the World Management Survey (WMS), a structured tool initially applied to medium-sized manufacturing firms in the US, UK, France, and Germany. The WMS captures 18 'objectively' assessed practices, grouped into four domains—operations, monitoring, targets, and incentives—each scored and averaged into a composite index. The authors found substantial variation in management quality across and within countries, with stronger scores linked to better productivity, growth, and retention outcomes.

The WMS has since evolved into a global initiative covering diverse sectors, such as universities (McCormack *et al.*, 2014), civil service agencies (Rasul and Rogger, 2017; Rasul *et al.*, 2020), clinics (McConnell *et al.*, 2009), and tax administrations (McKinsey & Company, 2009), supporting comparative analysis across contexts.¹ The WMS was later also expanded to public organisations such as schools and hospitals, and implemented in countries like Brazil, China, and India. These studies using the WMS revealed large variation in management practices, with lower scores in middle-income countries and weaker performance in public institutions, especially in incentives-related domains (Bloom *et al.*, 2012). Adaptations to frontline bureaucracies followed, including schools (Bloom *et al.*,

¹ See <https://worldmanagementsurvey.org> for additional information.

2015), where better management was found to be associated with better student outcomes.

In order to make the WMS applicable and specific to more contexts, Lemos and Scur (2016) expanded the evaluation tool for public sector management in low- and middle- income countries, resulting in the Development WMS (D-WMS). A key methodological innovation of the D-WMS is refining the scoring criteria for greater granularity in order to address the challenge of the 'thick left tail' in the distribution of management scores in lower-capacity settings, where, applying the original WMS, education and health institutions show cluster around weak practices (Lemos and Scur, 2012).

Recent studies have extended these insights to decentralised education systems in Africa. In Zambia, Walter (2018) used a tailored D-WMS to survey District Education Officers and lower-level education officers (Ward Education Officers) and found a positive correlation between management quality, particularly in operations and monitoring, and student pass rates at the end of lower-secondary school. In Tanzania, Cilliers *et al.* (2022) surveyed all districts and used machine learning methods to identify three key management practices linked to better student outcomes: frequent school visits; performance reviews; and local incentives.

Building on these developments, recent research has extended the WMS framework to the Ghanaian context. Drawing on the conceptual approach proposed by Williams *et al.* (2021), Boakye-Yiadom *et al.* (2023) tailored the survey instrument to focus on the following dimensions of education system functioning: core implementation and delivery functions, target-setting, monitoring, incentives, and problem-solving. They administered the survey to District Directors of Education across 174 districts and uncovered substantial heterogeneity in management practices and a positive association between management and school-level performance outcomes. This aligns with several studies which have found that managerial behaviour plays an important role in public sector implementation: for example, Rasul *et al.* (2020) found that greater autonomy and discretion for civil servants are positively associated with project completion, while more rigid use of incentives and monitoring had to potential for counterproductive effects. Similarly, Beg *et al.* (2023) demonstrated that public managers, when empowered as leaders, can drive greater improvements in student learning, even within existing institutional frameworks.

Context

School system and performance

Pre-tertiary education in Ghana is divided into basic education and secondary education. The former is further structured into kindergarten, primary, and junior high school. Primary education has been free since the 1996 Free Compulsory Universal Basic Education policy was put in place; however, the kindergarten level was established only in 2008. Access at the basic education level has improved considerably, with a gross enrolment rate of over 100%² for kindergarten and primary school. However, the net enrolment rate is considerably lower due to under- and over-age children being enrolled: 42% of six-year-old children are still enrolled in kindergarten (instead of the first year of primary school) and there is evidence of children being sent to school before they reach four years in order to access childcare or other benefits, such as school feeding (Ministry of Education Ghana, 2018). Despite the improvements in recent years, there are high inequalities across different dimensions, with education inputs and outcomes being generally worse for pupils coming from low socio-economic households, rural areas, and northern regions of the country. The northern regions face greater challenges in education, having a high number of out-of-school children, poor infrastructure, and a lack of teacher availability (Ministry of Education Ghana, 2019). These challenges translate into poorer education outcomes in the northern regions, which are further exacerbated in rural areas, as shown by lower literacy rates and weaker Basic Education Certificate Examination (BECE) results (Ministry of Education Ghana, 2018).

Ghana Education Service (GES)

The administration of education in Ghana is decentralised, with responsibilities distributed across four levels: national, regional, district, and school. The Ministry of Education comprises 17 agencies at national level. Among these is the GES, which serves as the implementing arm for pre-tertiary education (Ministry of Education Ghana, 2018). The GES's General Directorate is responsible for national policy development for, coordination and oversight of basic and senior high school education.

Below the national level, the Regional Education Directorates ensure the consistent implementation of national policies across districts and hold direct administrative responsibility for senior high schools. At the next tier, the District Education Directorates (DEDs) play a critical and more hands-on role in

² The gross enrolment rate is calculated by dividing the total number of students enrolled in a specific level of education (regardless of age) by the population of the official age group for that level, then multiplying by 100.

supervising and supporting basic schools within their jurisdictions. They are the primary point of contact for teachers and school leaders, tasked with monitoring local implementation, overseeing teacher allocation, and managing the maintenance of school infrastructure. At the fourth level, schools constitute the ultimate point of service delivery, with headteachers and staff working under the supervision of the DEDs and their field officers. This multi-tiered structure, defines a clear chain of responsibilities, designed to ensure effective delivery of education from the central policy-making body down to the individual school.

The decentralisation of education in Ghana has been a gradual and non-linear process. Early attempts after independence were reversed, and significant decentralisation efforts only gained momentum with the Education Act 2008 (Act 778), which formally transferred certain powers to regional and district offices of the GES. However, the 2008 Act relied on deconcentration rather than devolution, meaning that authority was still retained by the GES General Directorate. It was only with the Education Bill of 2015 that steps towards devolution began, establishing a clearer framework that outlined the duties of the regional and districts directorates (Ministry of Education Ghana, 2015).

More recently, the Education Strategic Plan 2018–2030 identifies key challenges and long-term goals for the education sector. It highlights the need for further decentralisation in basic education management, particularly by empowering district officers and by providing them with data and evidence to support decision-making (Ministry of Education Ghana, 2019).

As at 2025, Ghana is divided into 16 regions and 261 metropolitan, municipal, and district assemblies (henceforth *districts*). Each DED is supervised by a centrally appointed District Director, who leads the district education administration, alongside four Deputy Directors who are responsible for budgeting, human resources, planning and data management, and school monitoring and supervision. The Head of Monitoring and Supervision manages the SISOs, formerly known as Circuit Supervisors. SISOs are responsible for overseeing schools within their assigned circuit and serve as the first point of contact between schools and the GES.

In addition to the GES structure (shown in Figure 1) there are sub-national political institutions with education-related functions. At the district level, the District Assembly hosts the District Education Oversight Committee (DEOC), composed of education stakeholders including the DED's Director, representatives of teachers' associations, parent–teacher associations (PTAs), School Management Committees (SMCs), and private school representatives. The DEOC has oversight responsibilities similar to those of the DEDs but lacks decentralised fiscal authority (Asim *et al.*, 2024).

At the national level, the GES Directorate General advises the Ministry of Education on policy development and coordinates the implementation of national education policies, programmes, and standards. It oversees education delivery across basic and senior high school levels. The Regional Education Directorates are primarily responsible for ensuring consistency and compliance in basic education. They monitor the DEDs to confirm that national policies are implemented uniformly across districts within their region. However, day-to-day operational authority over basic schools remains with the DEDs, with the Regional Directorates exercising direct administrative only at the senior high school level.

Although key decisions remain centralised, DEDs play a critical role in supervising and supporting basic schools. As stated above, they are the first point of contact for teachers and headteachers, and they monitor local implementation. The distribution of responsibilities across different levels of the system for core areas is summarised in the paragraphs below.

The GES General Directorate retains authority over the appointment, promotion, and transfer of teachers and officers, while districts are responsible for day-to-day personnel management, including teacher allocation, attendance monitoring, and oversight of officers' performance and discipline. Responsibilities for school infrastructure and teaching materials are shared: the General Directorate holds the formal mandate for the construction, equipping, and major maintenance of school facilities, whereas districts handle routine maintenance and ensure that public basic schools within their jurisdictions remain functional. Districts are also tasked with monitoring pupil attendance, managing the Education Management Information System (EMIS), and overseeing the availability of learning materials (Pre-Tertiary Education Act, 2020).

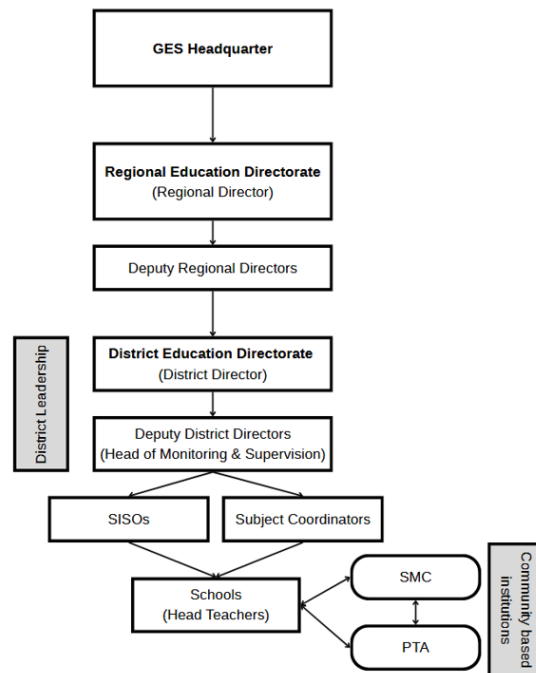
The curriculum is set at the national level by the National Council for Curriculum and Assessment (NaCCA). Districts are responsible for monitoring school adherence to the standardised curriculum and overall teaching quality (Education Regulatory Bodies Act, 2020).

Financial responsibilities remain largely centralised. School budgets (for teaching and learning materials) and teacher and officer salaries are determined and disbursed centrally, with direct transfer to recipients. DEDs control only their operational budgets, covering activities such as school monitoring and training (Pre-Tertiary Education Act, 2020).

Within the DEDs, SISOs play a pivotal operational role. They are expected to visit schools regularly to ensure compliance with the national curriculum, review teacher and pupil attendance records, and discuss challenges with headteachers and teachers.

Further information on the roles and responsibilities of the different levels of the GES can be found in Appendix A.

Figure 1: GES organogram



Source: Authors' elaboration using information from Asim *et al.* (2024).

Notes: besides GES entities, the figure shows community based institutions involved in school management, such as SMCs and PTAs.

Although Ghana's education system is formally decentralised, genuine fiscal autonomy at the district level remains limited. DEDs bear substantial operational responsibilities—such as school maintenance and supervision—but rely on centrally disbursed budgets and teacher salaries, leaving them with minimal discretionary funds. At the same time, decentralisation and the presence of SISOs and DEOCs support school-level supervision, and create closer links between administrators, teachers, and communities.

In this decentralised but resource-constrained system, the effectiveness of education delivery depends critically on the managerial capacity of district officials, SISOs, and headteachers—the actors directly responsible for translating national policies into school-level practice. Yet systematic evidence on how these frontline managers organise, motivate, and monitor staff is scarce. Gathering data on management practices at these levels is therefore highly relevant: it can reveal how variation in local leadership and administrative quality shapes school functioning, teacher performance, and ultimately learning outcomes.

Data

Sample

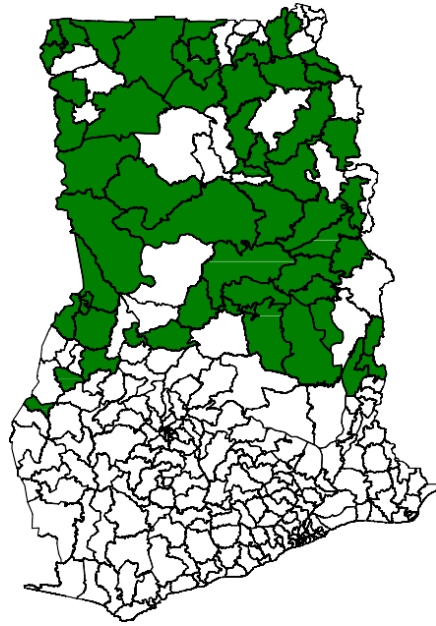
The primary data were collected from GES district officers in 54 districts in the north of Ghana. The data were collected as part of a larger study evaluating an early childhood intervention in northern Ghana³ (Augsburg *et al.*, 2022). The districts were randomly selected from among the 61 participating in the intervention. These districts account for 21% of the total number of districts in Ghana (261), but 62% of the districts in the northern regions of Upper West, Upper East, North East, Savannah, Northern, Bono, Bono East, and Oti. The data were collected in December 2023.

We ran two types of structured interviews: one with the district leadership (we refer to these data as the 'Leadership Survey') and one with SISOs responsible for those schools that we have data on (a random subset of public mixed-gender non-urban schools in the district)⁴. The Leadership Survey was administered to the District Director and/or the Head of Monitoring and Supervision; for the sections related to human resources or budgeting, the corresponding Deputy Directors were allowed to participate in the interview to provide specific details within their areas. For the SISOs survey, we interviewed a total of 237 SISOs, averaging 4.4 per district.

³ In the regressions we control for treatment status to avoid possible bias driven by treatment effects.

⁴ Within each district, the original study randomly selected five to ten schools. We interviewed all the SISOs responsible for the circuits where the schools were located.

Figure 2: Districts in the sample



Survey development

The surveys were created based on the D-WMS by Lemos and Scur (2016) and adaptations for its use in the public sector by Walter (2018) and Cilliers *et al.* (2022). We made further adaptations to reflect the Ghanaian context as well as to accommodate our specific logistical constraints. Our questionnaire is most similar to that of Cilliers *et al.* (2022) because their study context and design are the closest to ours for two reasons: i) like us, due to capacity constraints, they were not able to use the open-ended questionnaire as originally developed; ii) they interviewed two levels of officials within the district public sector, including Ward Education Officers, whose role is similar to SISOs in Ghana. Additionally, we included two sections related to the adoption of best educational and management practices and how responsibilities are allocated across the command chain that were in Lemos and Scur (2016) but were not included by Cilliers *et al.* (2022). Finally, we made further adaptations to adhere to the Ghanaian context, following an in-depth process of stakeholder engagement and piloting.

Adaptation process

The adaptation and piloting process had four main goals:

1. To map the GES organisational structure and specify the roles and responsibilities of district-level officers, including both *de jure* and *de facto* decision-making authority. This mapping identified the key actors for education quality management and the most appropriate survey respondents.
2. To determine which functions are decentralised at the district level, thereby excluding items controlled centrally that could not exhibit cross-district variation.

3. To elicit, from respondents' perspectives, the domains that most affect the management and performance of education.
4. To identify areas where the GES and the education system more broadly face the greatest operational constraints.

The process involved in-country meetings with stakeholders and collaborators, including Adelaide Addo-Fening (Thrive Ghana Country Director at the time) and Professor Jophus Anamuah-Mensah (Thrive Ghana Country Principal Investigator; University of Cape Coast), an expert on Ghana's education sector who has chaired several high-level national education committees. The research team also met directly with GES officers and head teachers from districts outside the study area to obtain first-hand insights into system challenges. Participants included SISOs, training officers, District Directors, Heads of Monitoring and Supervision, Early Childhood Education Coordinators, and head teachers from districts such as Wenchi, Techiman, and the Accra Metropolitan area. Finally, our data collection partner, Innovations for Poverty Action, piloted the full final survey instruments with officers outside the study area. Appendix A provides key takeaways from this process. The main changes to the survey instrument following piloting were the following:

- We limited questions on budgets and resource allocation because resources for learning materials, infrastructure, and salaries (teachers and district officers) are centrally managed.
- We added questions on external funding from non-government organisations and communities, given their important role in education provision in rural Ghana.
- We limited questions on teachers' and SISOs' recruitment and career progression, as these processes are centralised and largely seniority-based.

Additional data used

We make use of two further datasets to i) shed light on the validity of the management indices and ii) explore the correlation with a measure of teaching quality at the pre-school level.

As an external governance benchmark, we use the 2021 District League Table (DLT), developed by the United Nations Children's Fund (UNICEF) Ghana and the National Development Planning Commission (NDPC), which assesses performance across seven sectors, with a focus on child survival and development, covering all 261 districts. We focus on the governance indicator, defined as the proportion of a district's annual action plan that was implemented. Further details are available in the 2021 DLT report (NDPC and UNICEF Ghana, 2022). A positive association between this indicator and our district-level management index would provide evidence of convergent validity, suggesting that our index captures relevant aspects of administrative performance.

We use classroom observations in kindergartens within the study area as a measure of pre-school quality. We have access to data from five to ten public schools in each district. These schools were randomly selected from the EMIS list. The data exclude single-gender schools and those with small or absent kindergarten classes (i.e. fewer than 12 enrolled pupils). The final sample comprises 361 schools. In each school, an enumerator observed a randomly selected Kindergarten 1 class for 30 minutes and completed a checklist of behaviours and teaching practices if these were observed during the lesson. The checklist included five items related to teacher behaviours (e.g. 'The teacher praises positive behaviour', 'The teacher reminds children of the class rules') and ten items related to teaching practices (e.g. 'The teacher uses songs to facilitate learning', 'The teacher asks two open-ended questions').

Methodology

We study the management practices of *district-level (middle-tier)* officials in Ghana's education sector across four domains identified in the literature: *operations, monitoring, targets, and incentives* (Bloom and Van Reenen, 2007; Lemos and Scur, 2016; Walter, 2018; Cilliers *et al.*, 2022).

We proceed in a bottom-up manner. Each item is coded as a binary indicator (1 = practice observed/reported; 0 = otherwise). For each sub-domain, we compute a summary index as a simple mean of its items (i.e. a proportion in [0, 1]) (Bloom and Van Reenen, 2007) and report item-level summary statistics alongside the sub-domain mean and standard deviation. We then plot the cross-district distribution of the sub-domain indices.

Most items are reported by a single district-level official, yielding one observation per district. Where data are obtained from SISOs, each district has multiple respondents; in these cases, we aggregate to the district level by averaging respondent scores within districts and then proceed as above.

Next, we aggregate sub-domain indices to form a single domain-specific index as a simple mean (again a proportion in [0, 1]). For the overall management index and for each domain (operations, monitoring, targets, incentives), we report the mean, standard deviation, and the 25th, 50th, and 75th percentiles, and we present spatial patterns of these indices. All descriptive tables and figures use the proportion scale in [0, 1].

As external benchmarks, we use (i) the governance measure from the DLT and (ii) the pre-school-quality measure constructed from classroom observations. The pre-school-quality measure is an item response theory (IRT) index based on all behaviour and teaching-instruction items. We examine how the district-level management index (and the four domain indices) is associated with the DLT governance indicator and the district-aggregated school-quality measure using ordinary least squares (OLS) regression analysis, with standard errors clustered at the district level. For regression analyses only, all indices are standardised to mean 0 and standard deviation 1 to facilitate coefficient interpretation.

Results

Items and sub-domains

We begin by documenting for each of the four management domains the summary statistics for (i) items included within each domain, and (ii) sub-indices created from these items. We then show the district distribution of the sub-indices.

Operations

The operations domain covers the core administrative functions overseen by district officials: budgeting, curriculum oversight, coordination of teacher training, and the allocation of materials and other resources to schools. Table 1 summarises this domain, which we divide (following Walter (2018) and Cilliers *et al.* (2022)) into six sub-domains: *curriculum*, *resource allocation*, *teacher allocation*, *diffusion of management practices*, *teacher training*, and *budgeting*.

Item-level evidence indicates high consistency in adherence to practices in some sub-domains and substantial variation in others.

Curriculum and *teacher training* are highly institutionalised: almost all districts report using a standardised curriculum and universally monitor lesson planning and classroom practice in both kindergarten and primary school. Head teacher training is provided in 93% of districts, and teacher training in 83%.

Resource allocation and *budgeting* also have relatively high scores (0.70 and 0.69, respectively), but conceal notable heterogeneity. Resource monitoring is nearly universal (96%), yet only 15% of districts reallocate additional resources to schools with greater needs. Likewise, although formal budget procedures are widespread—87% submit budgets to headquarters and 85% provide spending breakdowns—only 30% involve multiple stakeholders in budget decisions.

Diffusion of management practices and *teacher allocation* record the lowest average scores:

0.47 and 0.44, respectively. While for the sub-domain *teacher allocation*, scores are generally low for all items, *diffusion of management practices* exhibits significant variation. For example, 93% of districts report that new management practices improvements are needed, but only 6% report organising trainings and regular external conferences as a management diffusion practice.

Table 1: Items included in the *Operations* domain

	Mean	SD
Curriculum	0.92	0.11
Standardised curriculum kindergarten (KG)	0.96	0.19
Curriculum flexibility KG	0.74	0.44
Monitor schools on curriculum KG	1.00	0.00
Standardised curriculum primary school (PS)	0.98	0.14
Curriculum flexibility PS	0.70	0.46
Monitor schools on curriculum PS	1.00	0.00
Coordinate with schools to prepare lesson plans (KG)	0.94	0.23
Coordinate with schools to prepare lesson plans (PS)	0.94	0.23
Track head teacher activities	1.00	0.00
Teacher training	0.83	0.29
Teachers training (KG and PS)	0.74	0.44
Head teacher training	0.93	0.26
Resources allocation	0.70	0.19
Monitor availability of student inputs	0.83	0.38
Adapt spending to specific needs	0.85	0.36
Adapt spending to specific needs following indicators	0.67	0.48
Allocate more resources to schools with higher needs	0.15	0.36
Monitor schools infrastructures	0.96	0.19
Support schools with resources shortages	0.96	0.19
Support schools shortages: look for add. res. from central gov.	0.50	0.50
Budget	0.69	0.21
Has a budget	0.96	0.19
Can show budget	0.56	0.50
Autonomy in budget allocation with HQ guidelines	0.57	0.50
Budget involves many stakeholders	0.30	0.46
Submitted budget to HQ	0.87	0.34
Submitted spending breakdown to HQ	0.85	0.36
Diffusion of mgmt. practices	0.47	0.24
New mgmt. practices improvements are needed	0.93	0.26
Mgmt. practices diffusion: formal meetings with head teachers	0.89	0.32
Mgmt. practices diffusion: trainings	0.41	0.50
Mgmt. practices diffusion: mandatory trainings	0.39	0.49
Mgmt. practices diffusion: trainings and sporadic external conferences	0.15	0.36
Mgmt. practices diffusion: trainings and regular external conferences	0.06	0.23
At least two methods for tracking head teacher mgmt. practices	0.67	0.48
At least three methods for tracking head teacher mgmt. practices	0.28	0.45

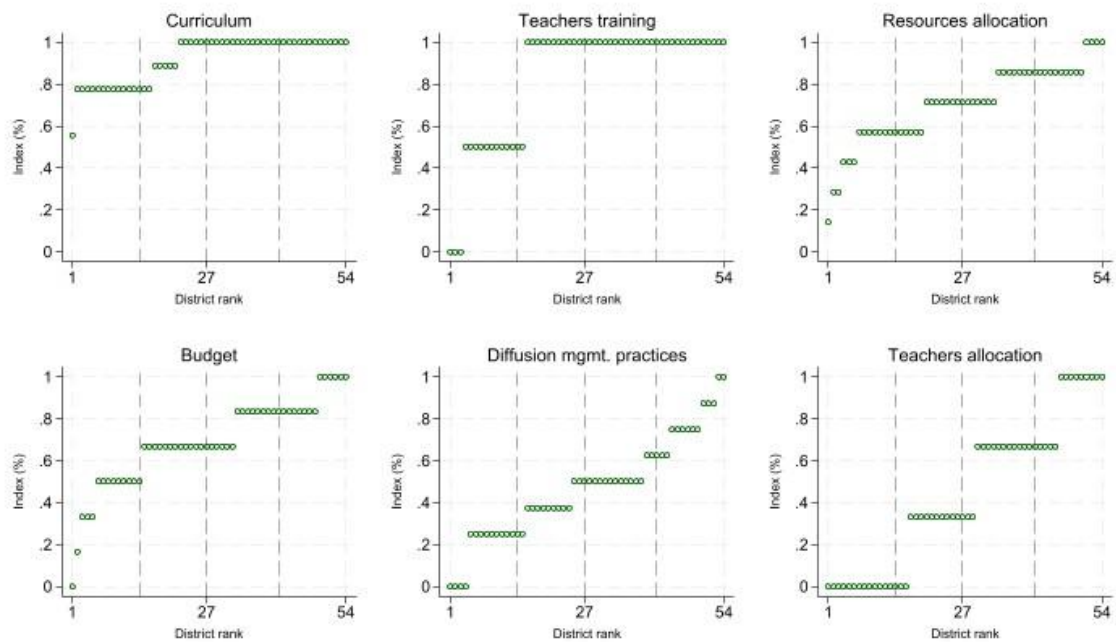
Teacher allocation	0.44	0.36
At least two stakeholders involved in teacher allocation decisions	0.65	0.48
At least three stakeholders involved in teacher allocation decisions	0.37	0.49
Teacher allocation decisions ongoing	0.31	0.47

Source: Data from the Leadership Survey.

Note: All variables are binary.

Figure 3 displays the sub-domain indices by district (ranked within each panel). The sub-figures reveal substantial cross-district variation in several, though not all, operational sub-domains. As expected, *curriculum* practices exhibit little to no variation, consistent with near-universal adoption of the curriculum centrally developed by NaCCA. By contrast, *resource allocation*, *diffusion of management practices*, and *budgeting* display wide disparities across districts. This pattern corroborates the earlier finding that while some operational functions are highly standardised, others are unevenly implemented.

Figure 3: *Operations* sub-domains—district-level distributions



Notes: In each panel, districts are ranked in ascending order based on their score in the respective sub-domain. Ranks are not comparable across panels. Indices are proportions in [0, 1] (plotted as 0-1).

Monitoring

Monitoring includes the practices used by district officials to gather and document information about school performance. This encompasses school visits, use of performance indicators, reporting procedures, and problem identification systems. Differently to the other domains, this includes items from the SISOs survey, regarding both how SISOs are monitored (e.g. meetings with leadership and report writing) and how they monitor the schools.

Table 2 and Table 3 provide the means and standard deviations of the items included in this domain, from the Leadership Survey and from the SISOs survey, respectively.

Practices related to *collecting information* for lesson planning and classroom oversight are highly institutionalised : virtually all districts report systematic monitoring (0.98), ensuring detailed lesson plans (1.00), and monitoring teacher instruction (1.00). Use of whole- school visit reports is common (0.76), and school records are available in two-thirds of districts (0.67). By contrast, assessing learning of children attending pre-school is much less frequent (0.39). Variation is sizeable for several items (e.g. school records, $SD = 0.48$; learning assessment, $SD = 0.49$).

The *identify problems* sub-domain has a relative high score on average. Most districts have a formal process for obtaining information from staff (0.83) and documenting problems (0.98), yet *always* documenting issues is uncommon (0.31). Preventive action is reported by 0.59 of districts, while procedures to resolve routine problems are widely in place (0.81). Dispersion is notable for always documents problems ($SD = 0.47$) and taking preventive steps ($SD = 0.50$).

Performance indicators. Feedback loops are comparatively weak: fewer than half of districts share performance indicators with schools (0.44), systematic sharing is rarer still (0.30), and sharing more than one indicator is reported by 0.39 of districts. Standard deviations around 0.46–0.50 indicate substantial cross-district heterogeneity.

Table 2: Items included in the *Monitoring* domain—District Director

	Mean	SD
District Director		
<i>Collect information</i>	0.80	0.15
School records are available	0.67	0.48
Monitoring is systematic	0.98	0.14
Ensure that schools prepare detailed lesson plans	1.00	0.00
Monitor teacher instruction	1.00	0.00
Assess student learning	0.39	0.49
Use information from whole school visit reports	0.76	0.43
<i>Identify problems</i>	0.71	0.26
Formal process to get info from staff	0.83	0.38
Document problems	0.98	0.14
Always document problems	0.31	0.47
Take steps to avoid issues	0.59	0.50
Process to solve regular problems	0.81	0.39
<i>Performance indicators</i>	0.38	0.43
Share performance indicators with some schools	0.44	0.50
Sharing is systematic	0.30	0.46
More than one indicator shared	0.39	0.49

Source: Data from the Leadership Survey.

Note: All variables are binary.

The sub-domain average for SISOs' *meetings* with the leadership is modest (0.35; $SD = 0.21$). While units frequently discuss operational challenges (0.63; $SD = 0.48$), regular meetings are reported by 0.41 ($SD = 0.49$), and discussions of academic achievement (0.15; $SD = 0.36$), progress toward targets (0.25; $SD = 0.43$), and upcoming activities (0.31; $SD = 0.46$) are comparatively rare.

Practices on SISOs' *reporting* are stronger overall (sub-domain mean 0.59; $SD = 0.22$), driven by near-universal report writing (0.98; $SD = 0.13$), a fundamental task for SISOs. However, the feedback loop appears weak: reports are shared at least monthly by 0.66 ($SD = 0.48$) and with the District Director by 0.56 ($SD = 0.50$), but only 0.48 ($SD = 0.50$) say reports are always read and 0.26 ($SD = 0.44$) that they are always acted upon.

Table 3: Items included in the *Monitoring* domain—SISOs

	Mean	SD
SISOs		
<i>Meetings</i>	0.35	0.21
Have regularly scheduled meetings	0.41	0.49
Discuss school academic achievement	0.15	0.36
Discuss challenges faced by the unit	0.63	0.48
Discuss progress towards meeting targets/goals	0.25	0.43
Discuss planned upcoming activities	0.31	0.46
<i>Activities during school visits</i>	0.31	0.17
Inspect school documents	0.62	0.49
Ask teachers/head teachers about the school's needs	0.17	0.38
Check that teachers are present and teaching	0.36	0.48
Check teachers' attendance record	0.55	0.50
Classroom observations	0.69	0.46
Check teachers' lesson plans/scheme of work	0.56	0.50
Talk to students	0.10	0.30
Talk to parents	0.08	0.27
Talk to teachers	0.16	0.37
Give feedback to teachers	0.18	0.38
Assess students' learning	0.22	0.42
Record students' performance	0.17	0.37
Inspect facilities	0.11	0.31
Train teachers	0.09	0.29
<i>Reporting</i>	0.59	0.22
Write reports	0.98	0.13
Shared at least monthly	0.66	0.48
Share reports with the District Director	0.56	0.50
Report is always read	0.48	0.50
Report is always acted upon	0.26	0.44

Source: Data from the Circuit Supervisor Survey.

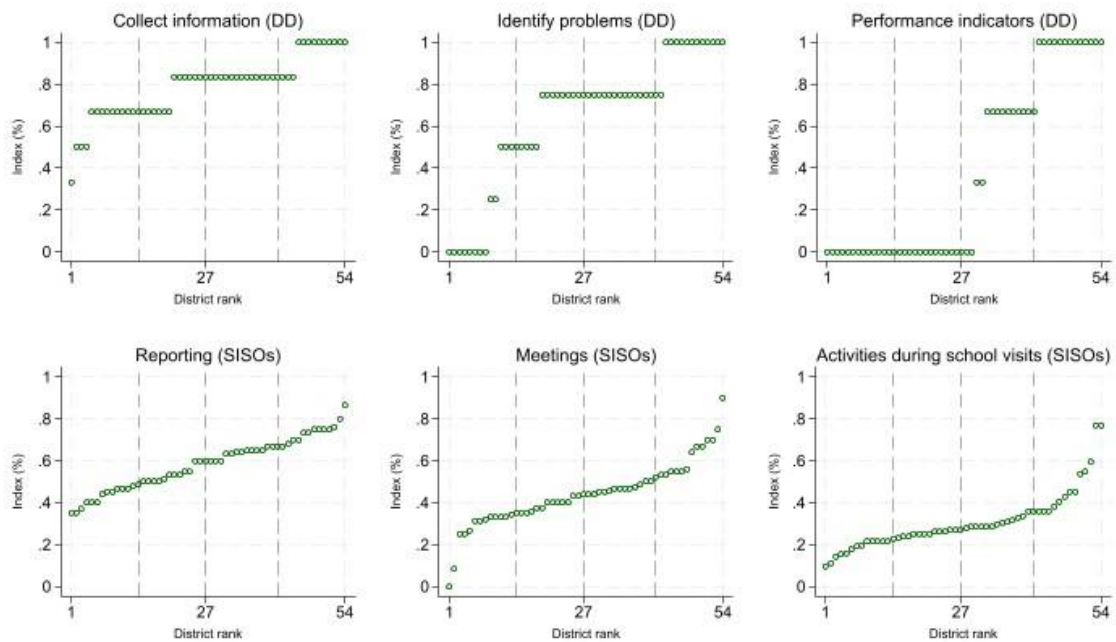
Note: All variables are binary.

The sub-domain average for SISO's *activities during school visits* is low (0.31; $SD = 0.17$). Several compliance checks are common: classroom observations (0.69; $SD = 0.46$), inspection of school documents (0.62; $SD = 0.49$), checks of lesson plans/schemes of work (0.56; $SD = 0.50$), and checks of attendance records (0.55; $SD = 0.50$). By contrast, direct engagement and pedagogical support are limited: checking teacher presence (0.36; $SD = 0.48$), giving feedback to teachers (0.18; $SD = 0.38$), assessing student learning (0.22; $SD = 0.42$), recording student performance (0.17; $SD = 0.37$), talking to students (0.10; $SD = 0.30$) or parents (0.08; $SD = 0.27$), and providing on-the-job training (0.09; $SD = 0.29$) are infrequent.

Read together, the District Director and SISO tables suggest alignment on routine monitoring (lesson plans and instructional oversight) but weaker SISO-reported practices around meetings, performance feedback, and follow-through on reports, indicating bottlenecks in feedback loops despite standardised procedures.

Figure 4 highlights significant variation across districts in several monitoring sub-domains. While practices like information collection, SISOs' reporting, and problem identification by District Directors appear relatively uniform, the performance indicators and SISOs' school visits sub-domains exhibit wide disparities across districts.

Figure 4: *Monitoring sub-domains—district-level distributions*



Notes: In each panel, districts are ranked in ascending order based on their score in the respective sub-domain. Ranks are not comparable across panels. Indices are proportions in [0, 1] (plotted as 0-1).

Targets

Districts received relatively high scores for sub-domains measuring the quality of district targets, both in term of *time horizon* (0.69) and *targets balance* and *specificity* (0.66). Most of the districts define both short-term and long-term targets, with a slight emphasis on short-term planning. However, for both

targets, around half of the districts do not define them with clear quantitative objectives. Only 57% of districts declare having more than one target and not focusing solely on children's performance. However, there is an overall link between targets and activities (76%) and an inclusion of multiple stakeholders during the target-setting process (78%).

SISO-level target practices follow a similar pattern. Most of the SISOs have targets (87%), only 19% have specific numeric targets, and in most cases the most important target is related to children's exam performance.

Only 58% of the districts declare that their goals are demanding but manageable, while the remaining ones are divided between districts with overly demanding targets or those with targets that are perceived as insufficiently challenging. Additionally, only 57% declare that their targets are met in most years. Although schools are broadly seen to have targets (74%), only 20% of respondents report that schools have different goals, implying a standardised approach that may not reflect contextual needs. Almost all respondents (94%) say that school goals are 'equally demanding'.

Table 4: Items included in the *Targets* domain

	Mean	SD
<i>Time horizon</i>	0.69	0.26
District GES defines short-term targets	0.94	0.23
District GES defines long-term targets	0.85	0.36
District GES defines clear short-term targets	0.52	0.50
District GES defines clear long-term targets	0.43	0.50
<i>Balance of targets</i>	0.66	0.21
At least one target	0.98	0.14
More than one target	0.57	0.50
At least some targets are specific	0.67	0.48
All targets are specific	0.19	0.39
Multiple people involved in deciding the targets	0.78	0.42
Activities linked to targets	0.76	0.43
<i>School targets</i>	0.64	0.42
Schools have targets	0.74	0.44
Schools targets are clearly defined	0.50	0.50
Multiple people involved in deciding the school targets	0.67	0.48
<i>Target stretch</i>	0.58	0.22
Targets are demanding but manageable	0.59	0.50
Targets are met most of the years	0.57	0.50
Schools have different goals	0.20	0.41
Schools have goals that are equally demanding	0.94	0.23
<i>SISO targets</i>	0.43	0.14
Has own targets	0.87	0.33
Staff have multiple targets	0.13	0.34
At least some of own targets are specific	0.19	0.39

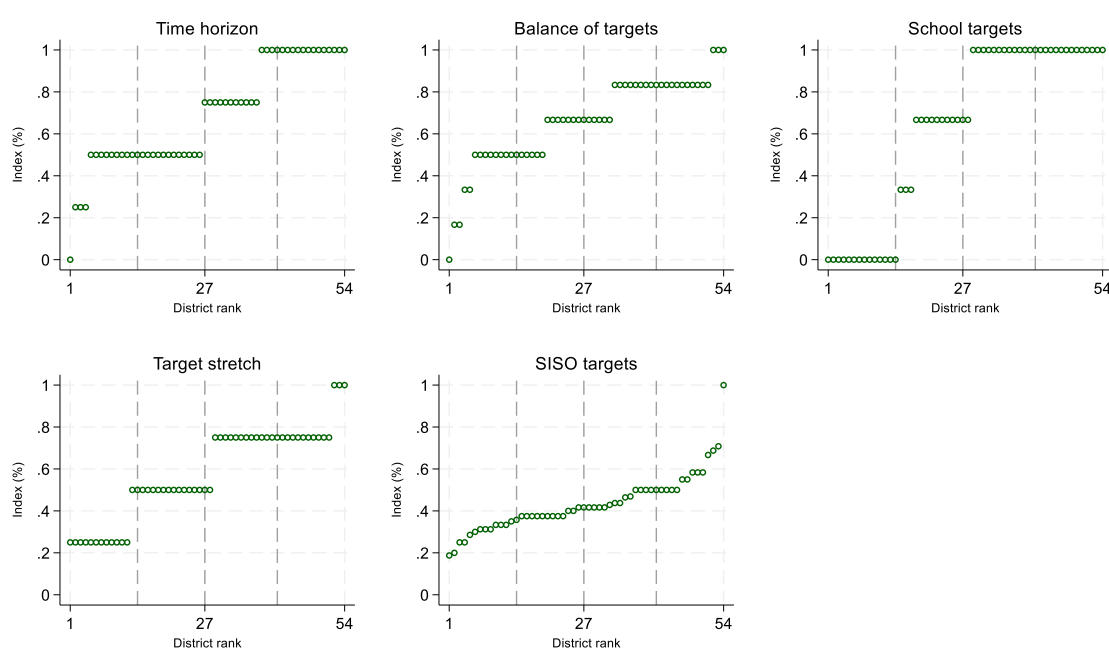
Highest target is performance	0.51	0.50
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Source: Data from the Leadership Survey the SISOs survey.

Note: All variables are binary.

Figure 5 shows considerable variation across districts in most sub-domains of target-setting. The components of *time horizon*, *balance*, and *school targets* have large variability across districts, with some DEDs performing less than 20% of the relative practices. On the other hand, the *SISO targets* sub-domain displays more continuous variation across districts and a lower variability.

Figure 5: *Targets* sub-domains—district-level distributions



Notes: In each panel, districts are ranked in ascending order based on their score in the respective sub-domain. Ranks are not comparable across panels. Indices are proportions in [0, 1] (plotted as 0-1).

Incentives

The incentives domain includes practices aimed at motivating and disciplining district officers and schools. Table 5 summarises the items and the sub-domains: *SISOs' performance review*, *consequences*, *SISOs' rewards*, and *teachers' rewards*.

There is high variation across sub-domains and overall low adherence to incentives practices. The highest average score is found in the *consequences* sub-domain (0.62). While 81% of the districts have consequences for underperforming officers, only 17% include negative consequences such as public reprimands, salary deductions, or lay-offs. In contrast, consequences for reporting false information are more institutionalised, with 80% of the districts reporting having formal consequences in place.

SISOs' performance is measured in all districts and is reviewed at least once per term in almost every case. However, performance evaluations tend to rely on limited information. Most of the districts use only one or two sources of information to evaluate SISOs' performance and in most cases (76%) the main information is self-reported by SISOs themselves. Other important sources are information from other GES officers and head teachers. Only 39% use at least one quantitative indicator, most commonly the number of school visits or the number of reports submitted, which are two core responsibilities of SISOs.

Given that career progression is largely determined by seniority, performance-based *rewards* represent a potentially important mechanism for motivating both officers and teachers. However rewards remain underutilised, with average sub-domain scores of 0.22 for SISOs and 0.27 for teachers. The low scores are driven by the fact that only around half of the districts have rewards in place and in only 11% of the districts SISOs and teachers are aware of their existence. Recipients awareness of rewards and the criteria behind them is essential for the rewards to function as effective incentives.

Table 5: Items included in the *Incentives* domain

	Mean	SD
<i>Consequences</i>	0.62	0.19
Any consequences for bad performance	0.81	0.39
Further training	0.37	0.49
Non-training consequences for bad performance	0.17	0.38
Any consequences for false information	0.98	0.14
Formal consequences for false information	0.80	0.41
Set consequences for false information	0.61	0.49
<i>SISOs' performance review</i>	0.52	0.18
Performance of SISOs is measured	1.00	0.00
SISOs perf. review schedule at least termly	0.98	0.14
SISOs perf. review schedule at least monthly	0.59	0.50
SISOs perf. review schedule at least weekly	0.22	0.42
At least one source for SISOs performance review	0.94	0.23
At least two sources for SISOs performance review	0.70	0.46
At least three sources for SISOs performance review	0.28	0.45
At least four sources for SISOs performance review	0.09	0.29
At least one indicator for SISOs performance review	0.39	0.49
At least two indicators for SISOs performance review	0.33	0.48
At least three indicators for SISOs performance review	0.17	0.38
At least four indicators for SISOs performance review	0.06	0.23
SISOs perf. meeting schedule at least termly	0.94	0.23
SISOs perf. meeting schedule at least monthly	0.59	0.50
<i>Teachers' rewards</i>	0.27	0.32
Teachers receive rewards	0.52	0.50
Financial rewards	0.20	0.41
Teachers aware of rewards	0.11	0.32
Clear reward criteria	0.30	0.46
More than one indicator	0.20	0.41
<i>SISOs' rewards</i>	0.22	0.26
SISOs receive rewards	0.56	0.50

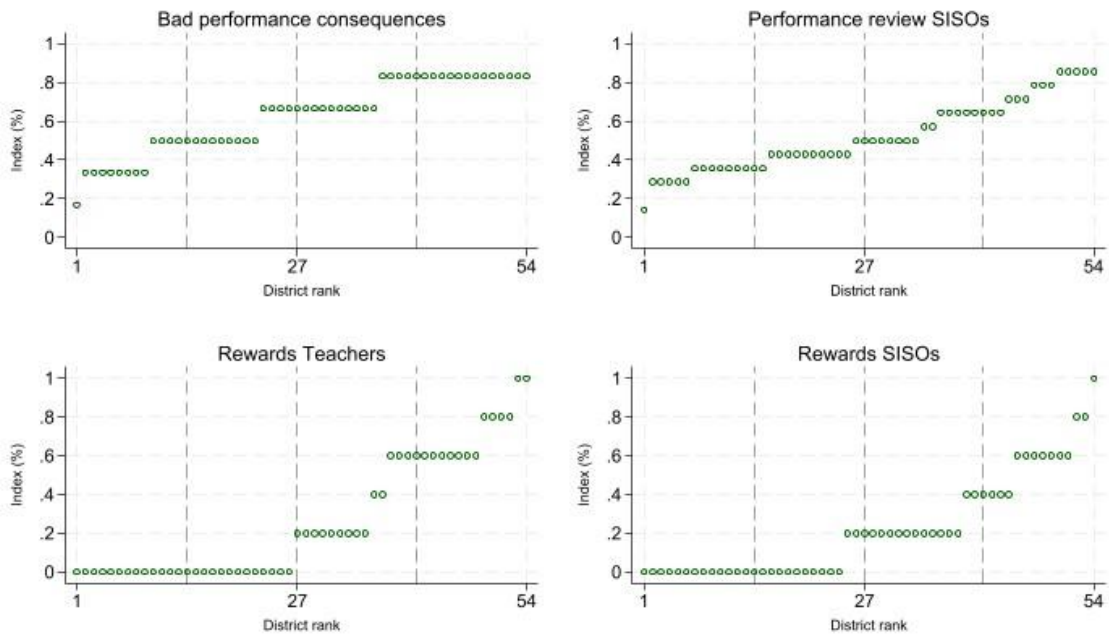
Financial rewards	0.11	0.32
SISOs aware of rewards	0.11	0.32
Clear reward criteria	0.22	0.42
SISOs aware of criteria	0.11	0.32

Source: Data from the Leadership Survey.

Note: All variables are binary.

Figure 6 reveals marked variation across districts in the use of incentive-related practices. While the use of rewards for SISOs and teachers is highly uneven, with many districts reporting no use at all, practices related to consequences for poor performance appear to be more standardised. Performance review systems for SISOs show moderate variation, suggesting differing levels of institutionalisation of these practices across districts.

Figure 6: *Incentives* sub-domains—district-level distributions



Notes: In each panel, districts are ranked in ascending order based on their score in the respective sub-domain. Ranks are not comparable across panels. Indices are proportions in [0, 1] (plotted as 0-1).

Domains and management index

Having presented items and sub-domain indices, we now examine the four domain indices constructed from those items. For each domain, and for the overall management index (the average of the four domains), we report the mean, standard deviation, and the 25th, 50th, and 75th percentiles; all descriptive statistics use the [0, 1] scale.

Table 6 summarises the four domain indices and the overall management index. On average, *operations* (mean = 0.68, *IQR*⁵ = 0.17) and *targets* (0.60, *IQR* = 0.25) score highest, while *monitoring* (0.51, *IQR* = 0.20) and *incentives* (0.49, *IQR* = 0.18) lag. Dispersion is greatest for *targets* (*SD* = 0.15), indicating substantial cross-district heterogeneity in target-setting and follow-up, and is more modest for *operations* (*SD* = 0.11). Medians are close to means in all domains (e.g. *operations* *P50* = 0.69; *incentives* *P50* = 0.50), suggesting limited skewness. The overall management index averages 0.55 (*SD* = 0.07, *IQR* = 0.11), implying moderate performance with relatively tighter dispersion than any single domain.⁶

Figure 7 displays the cross-district distributions of the four domain indices and the overall management index (districts are ordered within each panel by that panel's score). Consistent with Table 6, *operations* and *targets* sit higher in the distribution, while *monitoring* and especially *incentives* lie lower. Dispersion is most pronounced for *targets*, whereas *operations* and *incentives* show tighter spreads. The *overall management index* rises more smoothly with rank and exhibits a narrower range than any single domain, indicating that aggregation attenuates domain-specific volatility.

Table 6: Summary indices

	Mean	SD	P25	P50	P75
Monitoring	0.51	0.12	0.41	0.48	0.61
Operations	0.68	0.11	0.60	0.69	0.77
Incentives	0.49	0.11	0.38	0.50	0.56
Targets	0.60	0.15	0.49	0.61	0.74
Overall management index	0.55	0.07	0.49	0.56	0.60

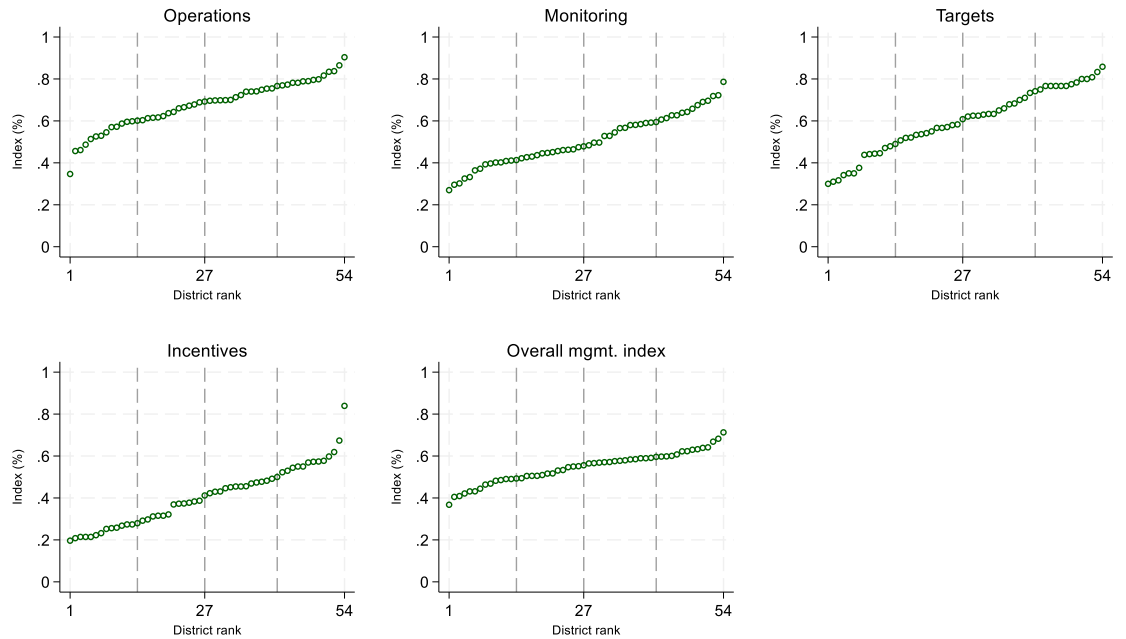
Source: Data from the Leadership Survey and the SISOs Survey.

Notes: For each of the 22 management practices, the mean is the average response for the districts and SD is the standard deviation in this district mean. Each sub-index mean is the average for the listed management practices. The overall index mean is the average of the four sub-indices.

⁵ Interquartile range

⁶ Table 9 in Appendix B presents the correlations between indices.

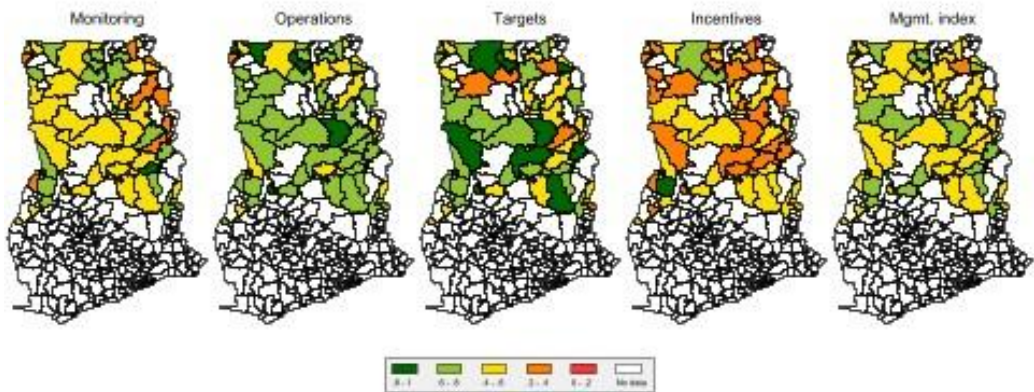
Figure 7: Domains and combined index—district-level distributions



Notes: In each panel, districts are ranked in ascending order based on their score in the respective domain.

Figure 8 visualises the spatial distribution of the four domain indices and the overall management index. Consistent with the summary statistics, *operations* and *targets* tend to score higher (more green), while *incentives* is generally lower (more yellow/orange), with *monitoring* showing a mixed pattern. The maps also suggest spatial clustering—contiguous sets of districts with similar scores—indicating potential positive spatial autocorrelation. These patterns suggest there is a need for additional analysis linking management quality to plausibly relevant geographic and administrative factors (e.g. proximity to regional capitals, road access, staffing/vacancy rates, and local fiscal capacity).

Figure 8: Maps domains



Correlations of management practices and performance indicators

In this final subsection, we relate the four domain indices and the overall management index to an external performance benchmark using district-level OLS.⁷

Table 7 reports regressions on an indicator for districts above the sample median of the UNICEF governance index. Districts with stronger governance scores exhibit substantially higher management quality: the composite index is 0.70 *SD* higher ($p < 0.05$). Among domains, *monitoring* shows the largest association (0.84 *SD*; $p < 0.01$), followed by *operations* (0.51 *SD*; $p < 0.10$). *Incentives* (0.28 *SD*) and *targets* (0.03 *SD*) are positive but not statistically distinguishable from zero at conventional levels. These results suggest meaningful convergence between the external governance benchmark and our management indices, particularly for monitoring and operational practices, while underscoring that not all management dimensions co-move equally with the governance measure.

Table 7: Regressions with the governance index

	(1) Incentives	(2) Operations	(3) Targets	(4) Monitoring	(5) Mgmt. index
High gov. index	0.280 (0.271)	0.514* (0.268)	0.032 (0.278)	0.837*** (0.252)	0.696** (0.259)
Obs.	54	54	54	54	54
R2	0.060	0.071	0.002	0.179	0.137

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses. Regression at the district level with each index as the dependent variable. High gov. index is an indicator equal to 1 if the district is above the median in the governance index in the sample.

Table 8: Regressions with pre-school quality

	(1)	(2)	(3)	(4)	(5)	(6)
Incentives	0.150* (0.079)				0.153* (0.089)	
Operations		0.015 (0.086)			0.011 (0.089)	
Targets			0.062 (0.083)		0.064 (0.083)	
Monitoring				0.010 (0.082)	-0.017 (0.098)	
Mgmt. index						0.111* (0.063)
Obs.	361	361	361	361	361	361
R2	0.032	0.012	0.018	0.012	0.042	0.029

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors clustered at the district level in parentheses. Regression at the district level with a school quality variable as dependent variable.

⁷ For this analysis only, indices are standardised to mean 0 and SD 1 to aid interpretation. All regressions include a control for treatment status in the original randomised control trial evaluation.

Table 8 relates the pre-school-level quality index (standardised, IRT) to each district-level management domain (indices standardised for this analysis) using OLS with standard errors clustered at the district level.⁸ Across 361 schools, the overall management index shows statistically significant association with school quality: 1 SD increase in the management index is associated with 0.11 SD higher quality score ($p < 0.10$). However, among the domains, only the *incentives* one shows a statistically significant association with school quality. The estimated associations for *operations*, *targets*, and *monitoring* are small and not statistically different from zero. R^2 values are modest (0.012–0.042), indicating that while incentive-related practices correlate with observed classroom quality, management domains explain only a limited share of the cross-school variation. These results should be interpreted as descriptive associations rather than causal effects.

⁸ All models include the kindergarten quality intervention control.

Discussion and conclusion

We analysed management practices of district-level officials across 54 districts in northern Ghana, organised into four domains—operations, monitoring, targets, and incentives.

The analysis reveals a clear distinction between compliance and discretion within Ghana's decentralised education system. Centrally mandated practices—such as curriculum implementation and routine monitoring—are executed relatively uniformly across districts, reflecting strong adherence to standardised procedures. By contrast, domains requiring local initiative, including budgeting, target-setting, and incentive use, display substantial cross-district variation. Consistent with this interpretation, the composite management index constructed from these sub-domains correlates positively with UNICEF's district governance score, suggesting that stronger local governance capacity is associated with more institutionalised management practices. However, the overall management score shows no systematic association with observed kindergarten classroom quality, except for the incentives sub-domain, which is positively correlated.

Taken together, these patterns are consistent with a system where formal structures are well established, but variation in managerial quality—and in particular, incentive-related practices—may contribute to differences in service delivery performance.

Limitations and future work

This study is descriptive in nature, and its findings should be interpreted with appropriate caution. The significant correlations we report highlight important associations but cannot be taken as evidence of causality. For example, the positive significant correlation between management practices and school quality could be driven by omitted factors that jointly influence both indicators. One possibility is that wealthier districts are characterised by both better mid-tier bureaucracy and better-resourced schools. Future research should seek to address such concerns by incorporating additional data sources, such as the Ghanaian Census, to control for potential confounders correlated with both management practices and school quality.

Similarly, the association found in this analysis could be driven by reverse causality. While it is plausible that management quality influences school outcomes, it is possible that higher-performing districts attract stronger bureaucrats, or that less experienced officials are disproportionately allocated to weaker districts at the start of their careers. If this were the case, the observed associations would reflect school quality shaping management practices, rather

than the other way around. Longitudinal or experimental approaches will be required to establish the direction of causality.

A second set of limitations arises from the fact that any primary data collection and index design inevitably require a certain degree of discretion. We sought to limit this by heavily relying on a well-established body of literature and by undertaking extensive piloting to understand the specificity and nuances of the Ghanaian context. Nonetheless, a certain degree of discretion remains that could affect the results.

One of the main decisions required was how to aggregate and weight items into sub-domains and those sub-domains into the overall index. In the current version of the index, sub-domains represent the proportion of positive managerial practices reported and domains are calculated as simple averages. This approach has the advantages of greater transparency and comparability with earlier studies, but it assumes that each item and sub-domain carries equal weight, which may not reflect their relative importance in practice.

The current index primarily relies on self-reported information from the district leadership. Respondents may have incentives to present their management practices as being in line with official guidelines, potentially inflating reported quality. While such reporting biases could affect the average level of the index, we have no reason to expect them to correlate systematically with school outcomes, which reduces concerns about biased results. Future work could strengthen reliability by comparing responses across different levels of the system: for example, examining whether SISOs' reports about how they are managed align with district leaders' claims about how they manage subordinates. Discrepancies between levels may themselves be informative, signalling breakdowns in communication or weak implementation of management practices.

Despite these limitations, the significant correlation between our index and an external measure of governance provides some reassurance that it is capturing meaningful variation in management quality. Future research should build on this foundation. Potential avenues for future research include robustness checks using alternative index construction methods (such as IRT within sub-domains), incorporation of secondary data on wealth, infrastructure, and school composition, and analyses that compare different layers of bureaucracy. Ultimately, experimental or longitudinal designs will be needed to move beyond description, testing whether variation in management practices causally influences downstream outcomes such as pupil learning and school readiness.

References

- Asim, M., Bell, S., Boakye-Yiadom, M., Nudzor, H. P., and Mundy, K. (2024). 'Management practices and implementation challenges in district education directorates in Ghana', *Educational Administration Quarterly* 60(3), pp. 275–309.
- Augsburg, B., Attanasio, O.P., Dreibelbis, R., Nketiah-Amponsah, E., Phimister, A., Wolf, S. *et al.* (2022) 'Lively Minds: improving health and development through play—a randomised controlled trial evaluation of a comprehensive ECCE programme at scale in Ghana', *BMJ open* 12(10), p.e061571.
- Araujo, M. Caridad, Carneiro, P., Cruz-Aguayo, Y., and Schady, N. (2016) 'Teacher quality and learning outcomes in kindergarten', *Quarterly Journal of Economics* 131(3), pp. 1415–1453.
- Beg, S. A., Fitzpatrick, A. E., and Lucas, A. (2023) 'Managing to learn', *Working Paper 31757*, National Bureau of Economic Research.
- Bloom, N., Genakos, C., Sadun, R., and Van Reenen, J. (2012) 'Management practices across firms and countries', *Academy of Management Perspectives* 26(1), pp. 12–33.
- Bloom, N., Lemos, R., Sadun, R., and Reenen, J. V. (2015) 'Does management matter in schools?' *The Economic Journal* 125(584), pp. 647–674.
- Bloom, N. and Van Reenen, J. (2007) 'Measuring and explaining management practices across firms and countries', *The Quarterly Journal of Economics* 122(4), pp. 1351–1408.
- Boakye-Yiadom, M., Leaver, C., Mansoor, Z., and Iocco, M. P. (2023) 'Management and performance in mid-level bureaucracies: Evidence from Ghanaian education districts', technical report, DeliverEd Initiative Working Paper, Education Commission.
- Bold, T., Filmer, D., Martin, G., Molina, E., Stavy, B., Rockmore, C. *et al.* (2017) 'What do teachers know and do? Does it matter? Evidence from primary schools in Africa', *World Bank Economic Review* 31(3), pp. 575–602.
- Cilliers, J., Dunford, E., and Habyarimana, J. (2022) 'What do local government education managers do to boost learning outcomes?', *The World Bank Economic Review* 36(3), pp. 629–645.
- Cooke, E., Hague, S. and McKay, A. (2016) 'The Ghana Poverty and Inequality Report: Using the 6th Ghana Living Standards Survey 2016', UNICEF.
- Ghana (2020) 'Education Regulatory Bodies Act 2020 (Act 1023)', *Ghana Gazette*, 21 August 2020.
- Ghana (2020) 'Pre-Tertiary Education Act 2020 (Act 1049)', *Ghana Gazette*, 27 October 2020.

- Ghana Statistical Service (2019) 'Ghana Multiple Indicator Cluster Survey (MICS) 2017/18: Snapshots of Key Findings'.
- Lemos, R. and Scur, D. (2012) 'Could poor management be holding back development?', working paper, International Growth Centre.
- Lemos, R. and Scur, D. (2016) 'Developing management: An expanded evaluation tool for developing countries', *RISE Working Paper*.
- McConnell, K. J., Hoffman, K. A., Quanbeck, A., and McCarty, D. (2009) 'Management practices in substance abuse treatment programs', *Journal of Substance Abuse Treatment* 37(1), pp. 79–89.
- McCormack, J., Propper, C., and Smith, S. (2014) 'Herding cats? Management and university performance', *The Economic Journal* 124(578), pp. F534–F564.
- McKinsey & Company (2009) 'The road to improved compliance: A McKinsey benchmarking study of tax administrations, 2008–2009', technical report. Washington, DC.
- Ministry of Education Ghana (2015) *Education Bill 2015*.
- Ministry of Education Ghana (2018) *Education Sector Analysis 2018*. Ministry of Education Ghana (2019) *Education Strategic Plan 2018–2030*.
- Ministry of Education and Ghana Education Service (2016) '2016 National Education Assessment: Report of Findings'. Accra: Ministry of Education. Available at https://nacca.gov.gh/wp-content/uploads/2019/04/2016-NEA-Findings-Report_17Nov2016_Public-FINAL.pdf?com (Accessed November 11th 2025)
- NDPC and UNICEF Ghana (2022) '2021 District League Table: Generating evidence for addressing unequal access to services and development opportunities for children', technical report, NDPC, Accra.
- Pritchett, L. (2015) 'Creating education systems coherent for learning outcomes: Making the transition from schooling to learning', *Technical Report RISE-WP-15/005*, Research on Improving Systems of Education (RISE).
- Rasul, I. and Rogger, D. (2017) 'Management of bureaucrats and public service delivery: Evidence from the Nigerian civil service', *The Economic Journal* 128(608), pp. 413–446.
- Rasul, I., Rogger, D., and Williams, M. J. (2020) 'Management, organizational performance, and task clarity: Evidence from Ghana's civil service', *Journal of Public Administration Research and Theory* 31(2), pp. 259–277.
- Walter, T. F. (2018) 'State management of education systems and educational performance: Evidence from a management survey at district education offices in Zambia', technical report, *IGC Working Paper S-89454-ZMB-2*, International Growth Centre (IGC).
- Williams, M. J., Leaver, C., Mansoor, Z., Qarout, D., Bilous, A., Mundy, K. et al. (2021). 'Delivery approaches to improving policy implementation: A conceptual framework', *Delivered initiative working paper*, Education Commission and Blavatnik School of Government, University of Oxford.

Appendix A: Main takeaways from surveys' piloting

The following is the main information that resulted from the extended piloting and adaptation process described in the section on *Survey development*.

Curriculum

- The curriculum is decided at the national level by NaCCA.
- Schools enjoy a degree of flexibility on lesson plans and specific daily activities. SISOs and subject coordinators should collaborate with schools in order to create lesson plans and should monitor that they follow the national curriculum.

Budget

- The DEDs do not have discretion over each school's budget, and teachers' and officers' salaries, as these are decided centrally. The schools receive a yearly capitation grant that depends on the number of children enrolled (as in the district's list). Many schools also receive additional resources from the Ghana Accountability for Learning Outcomes Project (GALOP), a project between the Ministry of Education and the World Bank that aims to improve the quality of education in basic education schools.
- Head teachers have discretion on how to allocate the resources received. They work along with the SMC and the PTA.
- The DEDs have autonomy on how they spend the resources allocated to their office. Most of the resources are allocated to monitoring.
- Even if the DEDs are responsible for schools' infrastructure, they do not have an allocated budget for this purpose and they have to rely on the District Assembly.
- Many officers explained that DEDs and schools are both highly budget constrained. The schools lack resources to pay for learning and teaching materials.

The SISOs and the other officers often have to use their own personal means of transport in order to carry out the required monitoring.

- Given the budget constraints, there is an important role for external funding coming from non-government organisations and communities. This includes both monetary and non-monetary resources, such as learning materials, infrastructure, and training. The ability of schools and district officers to lobby for additional resources is particularly important.

Teacher hiring process and career progression

- The hiring and allocation of teachers is a centralised process.
- DEDs participate in this process by giving an indication of what types of teachers are needed, and where.
- SISOs' opinions are often requested as they have knowledge of each school's needs, within their circuits. They indicate which schools need additional teachers, whether teachers should be rewarded, or if a teacher is performing poorly.
- Teachers' career progression is fixed and depends solely on the number of years of seniority and the qualifications they have, with no link to performance.
- Some DEDs organise rewards for the best performing teachers and head teachers. These are usually in the form of public recognition, but they can also include monetary or in-kind awards.

Targets

- The main goals for schools and DEDs are around performance, for primary and junior high schools. A widely used indicator is the BECE pass rate.
- Other goals mentioned by the districts officers are related to children retention and teachers training.
- Lower-level district officers (SISOs and Early Childhood Education Coordinators) set their personal goals and action plans with the district leadership. Depending on the districts, they can set different goals for each officer, or common goals for everyone within the district.
- Some officers mentioned that the leadership cannot ask for challenging targets as they are aware of the budget constraints that the officers are subject to. For this reason, many officers recognise that the additional effort that each officer decides to put in, regardless of the official targets, is an essential driver of positive results.

Appendix B: Analysis

Table 9: Correlation coefficients between management scores

	Incentives	Operations	Targets	Monitoring
Incentives	1.000			
Operations	-0.028	1.000		
Targets	-0.0433	0.242***	1.000	
Monitoring	0.276***	0.200***	-0.047	1.000

Notes: * p < 0.10, ** p < 0.05, *** p < 0.01.

Table 10: Operations—regressions with school quality

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Operations	0.015 (0.079)						
Curriculum		-0.123** (0.057)					
Resources allocation			-0.003 (0.095)				
Teachers allocation				0.005 (0.076)			
Diffusion of mgmt. practices					0.132** (0.062)		
Teachers training						-0.053 (0.064)	
Budget							0.068 (0.064)
Obs.	361	361	361	361	361	361	361
R2	0.013	0.030	0.012	0.012	0.028	0.015	0.017

Notes: * p < 0.10, ** p < 0.05, *** p < 0.01. Robust standard errors clustered at the district level in parentheses.

Table 11: Monitoring—regressions with school quality

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Monitoring	0.049						
	(0.072)						
Collect information		0.064					
		(0.067)					
Identify problems			-0.031				
			(0.083)				
Performance indicators				0.076			
				(0.072)			
Meetings					0.015		
					(0.073)		
Reporting						0.077	
						(0.069)	
Activities during school visits							-0.065
							(0.054)
Obs.	361	361	361	361	361	361	361
R2	0.015	0.017	0.013	0.018	0.013	0.018	0.016

Notes: * p < 0.10, ** p < 0.05, *** p < 0.01. Robust standard errors clustered at the district level in parentheses.

Table 12: Targets—regressions with school quality

	(1)	(2)	(3)	(4)	(5)	(6)
Targets	0.054					
	(0.179)					
Balance of targets		-0.042				
		(0.068)				
Time horizon			-0.004			
			(0.075)			
Target stretch				0.017		
				(0.076)		
School targets					0.034	
					(0.085)	
SISO targets						0.008
						(0.171)
Obs.	361	361	361	361	361	361
R2	0.020	0.014	0.012	0.013	0.014	0.023

Notes: * p < 0.10, ** p < 0.05, *** p < 0.01. Robust standard errors clustered at the district level in parentheses.

Table 13: Incentives—regressions with school quality

	(1)	(2)	(3)	(4)	(5)
Incentives	0.108*				
	(0.063)				
SISOs' rewards		0.117			
		(0.073)			
Teachers' rewards			0.098		
			(0.074)		
Consequences				0.016	
				(0.074)	
SISOs' performance review					-0.013
					(0.069)
Obs.	361	361	361	361	361
R2	0.023	0.025	0.021	0.013	0.013

Notes: * p < 0.10, ** p < 0.05, *** p < 0.01. Robust standard errors clustered at the district level in parentheses.

Thrive

Thrive is a multi-country research programme that aims to support countries to turn what we know about positive early childhood development into practical, scalable, low-cost programmes, able to transform societies over multiple generations. Working closely with policymakers and other stakeholders, Thrive aims to build understanding of early childhood development service delivery models and how they can be provided cost effectively and at scale, and how these systems can innovate, improve, and better serve children and communities in low- and middle-income countries.

Our five focus countries are Bangladesh, Ghana, Kiribati, Sierra Leone and Tanzania.

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