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**Tracking Basic Education Expenditures in Yemen:
Analyses of Public Resource Management and Teacher Absenteeism**

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ABBREVIATIONS AND ACRONYMS

AES	Annual Educational Survey
BCR	Basic Completion Rate
BS	Basic-Secondary (schools)
CBAA	Central Bureau for Auditing and Accounting
CFAA	Country Financial Accountability Assessment
DEO	District Education Office
EFA	Education for All
FMC	Fathers and Mothers Council
GDI	Gender Development Index
GDP	Gross Domestic Product
GEO	Governorate Education Office
GER	Gross Enrollment Rate
GIR	Gross Intake Rate
GoY	Government of Yemen
GSER	Grade Specific Enrollment Rate
M&E	Monitoring and Evaluation
MDG	Millennium Development Goals
MoCSAR	Ministry of Civil Service & Administrative Reform
MoE	Ministry of Education
MoF	Ministry of Finance
MoH	Ministry of Health
MoPIC	Ministry of Planning and International Cooperation
MoLA	Ministry of Local Administration
MTRF	Medium Term Results Framework
NBEDS	National Basic Education Development Strategy
O&M	Operation and Maintenance
PCR	Primary Completion Rate
PDRY	People's Democratic Republic of Yemen
PEMPN	Public Expenditure Management Policy Note
PEMT	Public Expenditure and Management Tracking
PETS	Public Expenditure Tracking Surveys
PR	Payroll
PRSP	Poverty Reduction Strategy Paper
TAS	Teacher Absenteeism Survey
TTI	Teacher Training Institute
TTL	Task Team Leader
WB	World Bank
WDR	World Development Report
YAR	Yemen Arab Republic
YR	Yemeni Riyal

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Table of Contents

Table of Contents	i
Executive Summary	ii
Section 1: Introduction	1
Section 2: Education Sector Overview.....	3
2.1 General Trends (Gross and Grade Specific Enrollment Rates).....	3
2.2 Broad Government Strategies	7
2.3 Roles and Responsibilities in Education Sector Financing	8
Section 3: Formal and Informal Public Financial Management and Civil Service Practices ..	18
3.1 Selection of Governorates and Research Methodology	18
3.2 Policies and Practices of Teacher Deployment and Salary Payments	19
3.3 Teacher Attendance Issues	22
3.4 Student Attendance Issues.....	24
3.5 School Resource Allocations (Textbooks and Furniture)	24
Section 4: Need for Absenteeism Survey and Methodology	26
4.1 The Case for a “Non-Classical” PETS Study and Its Relevance to Yemen’s Basic Education System.....	26
4.2 Methodology of Absenteeism Survey	27
4.3 Background Information about Surveyed Governorates.....	27
Section 5: Main Findings of the Absenteeism Survey	30
5.1 General Findings	30
5.2 School Characteristics and Absenteeism.....	33
5.3 Individual Characteristics of Teachers and Absenteeism	36
5.4 Issue of Ghost Teachers	39
Section 6: Summary and Conclusions.....	41
6.1 Budget Preparation, Execution and Salary Delivery	41
6.2 Teacher and Student Management	42
6.3 Salary Delivery and School Resource Allocation	45
Annex A: Budget Preparation and Execution at Different Levels	49
Figure A 1-4: Salary Expenditure Process	52
Figure A 1-11: Subnational Non-salary Expenditure Cycle	61
Annex B: Binary Probit Estimates of Teacher Absenteeism by Governorate	66

Executive Summary

- 1. Yemen faces significant challenges in expanding access and promoting quality for improved educational outcomes.** Yemen has one of the highest population growth rates (around 3.5 percent) in the world. Rapid population growth stresses the country's resources and adds extra burden on the government to meet its poverty-reduction goals. Yemen's demographic trends coupled with its scarce public resources necessitate a more equitable and efficient financial and human resource management in the basic education sector. Despite overall increase in gross enrollment rates, Yemen has one of the lowest adult literacy rates in the world. Particularly, female illiteracy rate is as high as 78 percent in rural and 40 percent in urban areas. The government acknowledges that it is unlikely to meet Millennium Development Goals (MDGs) and Poverty Reduction Strategy Paper (PRSP) objectives. Additional measures are needed to help achieve learning outcomes and improve overall educational quality in the country. This report maps education financing in Yemen across levels of autonomous and deconcentrated government, and examines prevailing informal practices surrounding public financial management, teacher workforce management, and textbook provision of schools.
- 2. The study employs both qualitative and quantitative methods to provide recommendations for tracking public expenditure and improving service delivery in the basic education sector in Yemen.** To this end, it documents the management of public resources in Yemen's education sector and potential inefficiencies in the use of these resources. Three complementary studies examine budget practices, teacher and school resource management issues and teacher absenteeism. The first study focuses on "in and out" resource flows, expenditures, oversight arrangements, and financial management practices (see section 2 and Annex A). The second study, based on a survey of 16 schools in 12 districts from 3 governorates, documents how prevailing informal practices in selected governorates deviate from formal rules and regulations with respect to teacher deployment and management, salary payments, and resource allocations to frontline service delivery units (see Section 3). The third study offers findings on leakages in wage and salary expenditures through an absenteeism survey,^{1,2} conducted in 240 schools in 4 governorates representing geographic and political diversity of Yemen (see Sections 4 and 5). This report is prepared under the Government of Yemen's (GoY) public expenditure and financial management reform program.

¹ Absenteeism survey denotes direct physical verification of teachers' presence through surprise visits to schools.

² Schools in Yemen neither receive nor anticipate significant amounts of cash allocations from higher levels of government. Almost all of the allocations are delivered in-kind (e.g., textbooks, chalks, and equipment) and procured at the central level.

Basic Education Sector Overview

3. **Enhancing expenditure efficiency represents a critical ingredient for achieving equitable improvements in education.** The World Bank's 2004 World Development Report, *Making Services Work for Poor People*, underscores that increased expenditures in education do not necessarily translate into better outcomes. The magnitude of Yemen's education challenges suggests that particular attention needs to be given to efficient and equitable education provision across Yemen. Accountability rules for the use of public resources within the sector need to ensure that such resources as quality staff, materials, and facilities are available at the front-line. An improved understanding of how public resources are currently managed to support front-line delivery represents a critical first step in any country context for assessing more effective use of public resources in the basic education sector.
4. **Improving the effectiveness of public expenditures in Yemen's education sector largely depends on addressing teacher management as well as front-line materials provisions.** Public Expenditure Tracking Surveys (PETS) of education sector typically focus on the estimation of fiscal leakages from cash resources allocated at the school level. Unfortunately, such an approach is not suitable for Yemen because schools in Yemen receive few, if any, cash resources, particularly since the recent abolition of school fees. Therefore, in lieu of a PETS, this report uses an absenteeism survey to document the leakages in wage and salary expenditures (i.e., direct physical verification of teachers' presence through surprise visits to schools). The survey was conducted in 4 selected governorates, representing Yemen's geographic and political diversity. The survey found that average absenteeism rates³ across governorates were 14.5 percent, underscoring an acute problem comparable to other developing countries. Most notably, the survey found significant variations in absenteeism rates across governorates. Another survey focusing on the prevailing informal rules and regulations revealed that schools face significant difficulties in receiving textbooks, teaching supplies and other materials. These findings place teacher management and front-line materials provision in the center of education service delivery problems in Yemen.
5. **This report, through its various components, revealed significant impediments—teacher deployment and salary payment, materials provision, student and teacher attendance, among others—on the path to improving education service delivery in Yemen.** However, without additional data on other factors, most prominently, on the number of ghost workers, these findings are not sufficient to reliably estimate the

³ Absenteeism rate represents the percentage of teachers who are absent on the day of visit without prior approval of leave.

monetary value of fiscal leakages. At the same time, comparison of separate datasets from the Ministries of Finance and Education (MoF and MoE) with the report's findings point to a big ghost worker problem.

6. Yemen has recently taken important steps for improving the basic education sector.

Education is the largest item in the overall government expenditure, although it has dropped from 20.7 percent in 2002 to 15.6 percent in 2006. Allocation of a large budget to the education sector led to the rise of girls' and mixed schools. The GoY has designed multiple projects in coordination with development partners in the areas of access, quality, and institutional capacity in basic education within the Medium Term Results Framework, which outlines steps to achieve the National Basic Education Strategy outcomes (NBEDS) for 2006-2010. There has also been a growing emphasis on assessing the efficiency of resource utilization in education. The GoY has sought to promote enrollment and increase literacy rates by waiving (through a cabinet decree in 2006) school fees for grades 1-3 for boys and 1-6 for girls. It also has taken initiatives to support school level management and community participation programs. On quality, the government has promoted both setting and better monitoring learning achievement targets by subject and grade. On institutional capacity, the government has directed its efforts to promote the coordination among all ministries involved in basic education policy-making, including the MoE, MoF, Ministry of Local Authorities (MoLA) and Ministry of Civil Service and Administrative Reform (MoCSAR).

7. However, extreme imbalances as well as gender disparities in enrollment rates across governorates continue to exist. In the governorate of Al-Jawf for example, the gross enrollment rate (GER) of 35 percent is 61 percent lower than the Taiz governorate's GER. In Saadah governorate, the female enrollment rate of 32 percent is strikingly lower than the male enrollment rate of 71 percent. These disparities are further exacerbated in individual districts with respect to quality of delivery, inputs, and learning outcomes.

Main Findings

Budget Practices and Management

8. Budget allocations and realizations at various levels of Yemen's education system – ranging from central government, intermediate levels, and schools – is characterized by excessive rigidity, lack of predictability, and transparency. Education expenses are shared between central and local governments. The MoF's budget circular, which provides general instructions to subnational governments about their allocations, are restrictive in that recurrent expenditures are given no flexibility to account for shifting subnational government priorities. Meanwhile, the budget execution at the local level is tightly controlled by the MoF. This situation may lead to under-budgeting of important

operation and maintenance expenditures. This study proposes that a budget envelope should be provided to individual spending units in order to better control inflated demands and assist in prioritizing needs. Also, monthly and year-to-date figures typically are not compared with budgeted figures, which results in a mismatch between the two. The study suggests that the authorities should look into the budget execution performance during the fiscal year, rather than only at the end. Furthermore, it is very difficult for the MoE, responsible for controlling key budgetary and personnel decisions, to obtain accurate information on the service delivery performance of individual schools. The report's findings suggest establishing clear indicators for tracking service delivery at the school level within reform initiatives, such as NBEDS. Each program/sub-program manager should be delegated a major role in budget formulation and execution and should be held accountable for delivering pre-specified results.

Teacher Management

9. **The efficiency of human and other resources deployment in the basic education sector can be enhanced through improved teacher management.** Although the teacher deployment is determined in a bottom-up manner, the capacity to monitor and evaluate teacher deployment is weak. Schools and district education offices usually inflate their needs with the anticipation of cutbacks from the MoE. These mismatches often are undetected by the central authorities. Furthermore, the schools face a shortage of teachers in certain subjects such as math and science, as well as a shortage of teachers for grades 1-6. One reason for this shortage is the outdated civil service rules, which do not fully apply to the existing need for grades 1-6 teachers. The qualification requirement for teaching grades 1-6 is a diploma from pre-service Teacher Training Institute (TTI) even though pre-service TTIs are no longer existent.
10. **Teacher absenteeism is a prominent symptom of problems in Yemen's basic education system.** Mismanagement of leave authorization for teachers at schools is one of the key factors in high absenteeism rates. Authorized leaves are not always certified by official documentation. The District Education Office (DEO) should ensure that every school has an official attendance sheet and that it is checked frequently. The survey found that more than one-third of unauthorized absenteeism was unacknowledged by principals during the school visit. Among the 211 unauthorized absence cases in the survey, 75 (36 percent) were sick leaves, 40 (19 percent) were for personal reasons, and 54 (26 percent) were for unknown reasons. Furthermore, early departure and late arrival of teachers also contribute to high absenteeism rates. Absenteeism rate on Thursdays is higher than any other day of a week; reflecting the overall reluctance in Yemen for going to work on Thursdays. The study team believes that any absence claimed on Thursday should be regarded as either unofficial or contingency.

11. The problem of absenteeism is influenced by additional factors, such as official duties, school size, educational background of the teacher, and parental monitoring.

The survey revealed that 22 percent of the absence cases were a result of official duties, including both teaching (mostly training) and non-teaching (mostly election duty) duties. When such duties are scheduled during the school year, they negatively affect students' learning. Additional factors, such as school size, educational background and parental monitoring, influence absenteeism. School size is inversely related to absenteeism rates. Although the trend was not as clear at the governorate level, on average, the absenteeism rate decreases as the size of the school increases. Teachers with higher educational qualifications have higher absenteeism rates. On the other hand, the existence of the Fathers and Mothers Council (FMC) is an important tool for lowering absenteeism rates. In schools with an FMC, the probability of teachers' absenteeism is, on average, 5 percent less compared to teachers in schools without an FMC.

12. Urban-rural or male-female variations were not detected in absenteeism rates. The survey did not find a clear difference between urban and rural schools in terms of absenteeism rates. Yet, this does not mean that the determinants for these rates are necessarily the same in urban and rural areas. Nor did the survey detect different trends of absenteeism between male and female teachers. According to the survey results, absenteeism rates are almost the same for male (14 percent) and female (15 percent) teachers.

13. However, the survey did detect wide variations in absenteeism rates across governorates. The determinants of absenteeism are analyzed for each governorate by using a binary probit model (see Annex B). In the regression analysis, the dependent variable is "absenteeism of the teacher." Independent variables include individual characteristics of teachers such as gender, place of living, qualification and position, as well as school characteristics such as location, shift of the school, school size and the existence of an FMC. The regression analysis reveals that the determinants of absenteeism vary across governorates. However, there is a need for more detailed information in order to better analyze these trends. Some independent variables have an opposite impact on the absenteeism rate in different governorates. For example, punctual salary payment has a negative sign in Hadramout, which can be interpreted as teachers prone to be less absent if they receive their salary on time. On the other hand, punctual salary payment variable has a positive sign in Hodeidah, which suggests that if teachers receive salary on time they tend to be more absent. It can be interpreted as an indication of job security and lead to "moral hazard," thus increasing the absenteeism rate.

14. The tendency of hiring teachers based on their residency rather than merit contributes to the inefficiencies in teacher deployment. This report calls for a more

merit-based rather than residency-based hiring mechanism, with a special emphasis for teachers specialized in needed subjects.

- 15. The teacher relocation policy is heavily abused.** Relocation issues have an important bearing on incentives provided by the rural allowance scheme, which was instituted to give monetary incentives to teachers serving in rural areas. Teachers receive rural allowance do not necessarily teach in rural schools. The teacher relocation policy is faced with additional obstacles on the ground with respect to teacher records. The name of the teacher often remains on the records and payroll of his/her former school, leading to misinformation on the school's records. The MoE has formulated a promising new decree in May 2006 designed to link teacher posts to schools.
- 16. Due to inefficiencies in teacher deployment, the share of female teacher posts is low, despite the government's declared support for increasing the number of female teachers.** Gender-sensitive arrangements in teacher and student management are key in reaching gross enrollment rate (GER) targets in basic education. Increased girls' enrollment largely depends on availability of female teachers especially in rural areas. One obstacle behind deploying more female teachers in rural areas is the social restrictions they face in finding housing and freedom of movement especially if they are single. The report notes that the school authorities should take these issues into serious consideration and consider both reserving living areas close to schools for female teachers and providing the necessary transportation.
- 17. The study denotes the lack of a functioning substitute teacher system and highlights the need for better cooperation among local schools to provide substitute teachers.** Currently, the substitute teachers designated by principals often have their own teaching load; thus, they perceive such standby assignments as an additional burden. They either do not teach or may give the task to a third party, who does not necessarily carry the qualifications required for teaching. The absence of a formalized substitute teacher mechanism is a serious shortcoming in the basic education system and has grave repercussions for students' learning opportunities. The report proposes that a substitute teacher mechanism should be formalized and implemented with the cooperation of close-by schools.
- 18. Prevailing challenges in salary payments call for an improved salary delivery system through greater transparency.** Salary payment is another issue of distress for the teachers, hence affecting the educational system's quality. Several teachers, in discussions with the consultants, indicated that they had never received the same salary amount for two consecutive months and that the payments were systematically delayed. Some also stated that additional fees were deducted from their salaries, either as government-

approval donation or as a penalty for days of absence. They have no records showing the base salary and deductions, as they do not get a pay stub. Salary delivery through post offices was recently introduced as a solution.

- 19. Existence of ghost teachers, who appear on the payroll but who do not teach or undertake any administrative tasks, is a significant problem that affects the efficiency of public expenditures.** The issue of ghost teachers in Yemen arises from the fact that there is a gap of approximately 30,000 teachers between Annual Educational Survey (AES) data and payroll data. The large gap in the number of teachers in payroll, AES, and teacher absenteeism survey (TAS) records shows that teacher transfers between schools are not accurately reflected in schools' payrolls. However, it is hard to tell the true magnitude of the ghost teacher issue due to lack of reliable data. The ghost teacher issue cannot be resolved unless payroll is properly prepared for each school.

School Resource Management

- 20. Problems exist with the provision of textbooks to schools.** The study also examined the quality of school resource allocations, such as textbooks and school furniture. Textbooks are not efficiently delivered to schools; some books arrive late, whereas, others do not arrive at all or arrive in lower quantities than required. All textbooks in the country are written and published by the MoE and are provided to students free of charge. Yet, there seems to be a mismatch between the average estimated availability of textbooks and the actual needed quantities. The mismatch is largely due to inaccurate reporting by the schools of their needs in anticipation of cutbacks or a weak monitoring mechanism by the MoE field team, responsible for determining the total textbook need in the governorates. There also are local variations of the textbook recollection and redistribution policies that go undetected by the authorities on the Ministry level. Some governorates supply books for higher grades on a "disposable" basis, or certain schools can charge students random fees per each book lost. Furthermore, there is no mechanism for redistributing the surplus of books from the previous years, which affects the consistency of learning materials. The rate of return tends to be high in urban areas (due to the availability of textbooks in the markets and of the wrapping facilities) and low in rural areas. The report stresses that textbooks need a more effective delivery and redistribution mechanism based on governorate-specific needs. Similar problems exist with respect to the delivery and distribution of school furniture, which arrives in low quality and quantity.

Key Areas for Improving

- 21. This report has identified a range of areas where public expenditure efficiency and equity in Yemen can be improved.** Given the importance of recurrent spending in the

basic education sector, we have placed particular emphasis on teacher management and effectiveness. Clearly, Yemen' budgeting and planning system will need to strive for an optimal mix of recurrent and investment expenditure prioritization in this sector. While some of the issues, such as procurement and school construction, are beyond the scope of the study (and may be addressed in the upcoming Public Expenditure Review), the study highlights key areas for follow up that could deliver tangible benefits.

22. It is imperative to clarify roles and responsibilities for the education sector. A number of agencies (MoE, MoF, MoCSAR and MoLA) all contribute to educational outcomes in Yemen, as well various levels of government, at the school level. In order to effectively monitor the implementation of reform measures, it is important to specify the division of roles and responsibilities among these actors and hold them accountable for achieving desired learning outcomes. Aligning accountabilities also should be prioritized in such a way that practical reform measures can be geared towards education expenditure efficiency in Yemen.

23. If well designed, school autonomy measures can promote bottom-up accountability. At present, schools have practically no access to discretionary resources. Nascent FMC also have limited sway in providing oversight or participating in school affairs. If well designed, a rule-based grant system to schools could be useful to encourage school-based decision making and to increase transparency. There is a need to establish a set of performance criteria to focus not simply on allocating financial resources but also on human resource management, educational quality, and performance. Such performance criteria would be crucial for accelerating reforms to promote budget flexibility and accountability on both central and local government levels.

Section 1: Introduction

The Republic of Yemen, with a population of almost 20 million, is one of the poorest countries in the world. Yemen is a low-income⁴ country that was divided before 1990 into the Yemen Arab Republic (YAR) and the socialist People's Democratic Republic of Yemen (PDRY). The unification in 1990 merged two countries dissimilar in size⁵ as well as political and economic structures.⁶ Although the Government of Yemen (GoY) made substantial progress in restoring macroeconomic stability and achieving steady growth following the unification, the country is confronted with an array of serious development challenges.

Poverty reduction remains the country's most acute challenge. Nearly half of Yemen's population lives under poverty. Yet, the pace of reforms that could help reduce poverty has recently slowed down and economic and social conditions have deteriorated. Real economic growth rates are projected to fall behind population growth while Yemen's natural resources are depleting. The oil reserves, which were discovered in 1984 and have since served as Yemen's main income source, are expected to exhaust in 8 years. The Human Development 2005 Index places Yemen 149th out of 169 ranked countries. Gender inequalities are among the highest in the world, where Yemen ranks 121st out of 140 countries on the Gender Development Index (GDI). Yemen has one of the highest population growth rates—more than 3 percent—and the lowest adult literacy rate—estimated at around 50 percent—in the world. Female adult illiteracy (at 78 percent in rural areas and 40 percent in urban areas) is twice that of males (32 percent in rural areas and 15 percent in urban areas).

The Government acknowledges that it is unlikely to meet the 2002 Poverty Reduction and Strategy Paper (PRSP) objectives⁷ and most of the Millennium Development Goals (MDGs). Yemen's demographic trends coupled with its scarce natural resources strengthen the case for increasing the efficiency of public sector expenditure allocations and utilization as a means of relieving fiscal pressures and increased pro-poor development effectiveness, including equity and equality imbalances. The GoY recognizes the importance of public expenditure and financial management reforms in its development and poverty reduction agendas. In August 2005, the Cabinet approved a strategy for improved public financial management, which is supported through a partnership agreement with donors including the World Bank.

This pilot public expenditure and management tracking (PEMT) project was undertaken in the context of the GoY's public expenditure and financial management reform program. This study follows the recommendations of previous studies such as Country Financial Accountability Assessment (CFAA) and Public Expenditure Management Policy Note (PEMPN) of the Bank. These and similar studies have usefully analyzed the overall public expenditure framework including budget execution, accounting, control, and audit. According to these studies, the current budget management system in Yemen provides a broadly satisfactory level of functionality and compliance. However, they conclude that the budget system is not sufficiently developed in many important areas to support the government's efforts to strengthen the public finances, improve public services, and deliver

⁴ Per capita income is US\$510.

⁵ Population in the North was five times that of the South.

⁶ The socialist South had better human capital compared to the North which had traditional tribal institutions with poorer human capital.

⁷ Ministry of Planning. June 2005. *PRSP Progress Report, 2003- 2004*.

its PRSP goals. For example, previous studies document that budget execution at the local level is tightly controlled by the Ministry of Finance (MoF) through time-phased budget allocations to the governorates. The purpose of this pilot exercise is to build on such previous findings by providing recommendations for strengthening fiduciary accountability and improving service delivery in the basic education sector.

This study maps the flow of funds from the MoF, through the provincial/district treasuries, to service providers in the basic education sector. It focuses on “in and out” resource flows, expenditures, oversight arrangements, and financial management standards. The study examines how public funds are used at the governorate and district level to deliver education services. It aims to provide an in-depth understanding of both formal and informal practices in the public financial management/civil service management systems and the linkage between expenditures and service delivery mechanisms. The study investigates the disparities and inconsistencies between formal regulations and informal practices in teacher deployment, wage payments, and resource allocations to schools. Furthermore, it analyzes leakages in wage and salary expenditures through an absenteeism survey—direct physical verification of teachers’ presence through surprise visits to schools. The study explores how absenteeism correlates with a wide range of potential determinants of the quality of education at the individual, facility, and national levels.

This study examines four main research issues related to Yemen’s education sector: (i) leakage in the flow of funds, (ii) compliance with financial management standards, (iii) incentives to provide better quality services, and (iv) teacher management issues. The next section provides an overview of education sector issues and the GoY’s sector strategy. The third section summarizes the main findings of a background study on formal rules and actual/informal behaviors in public financial and civil service management. The study, prepared as a background report for the PEMT project, documents how practice in selected schools deviate from formal regulations in (a) teacher deployment and wage payments and (b) resource allocations. The fourth section discusses the need for a teacher absenteeism survey (TAS) and introduces the methodology to implement it. The fifth section presents the findings of the survey, and the sixth section concludes with policy recommendations.

Section 2: Education Sector Overview

Developing an effective basic education strategy is as a key element in Yemen's poverty-reduction efforts. The education sector has made significant achievements during the last decade, with accelerated enrollment expansion especially during the past 5 years. The GoY has substantially increased public expenditures in education and vowed to implement policies to improve access, quality, and institutional capacity in basic education. Yet, it is still faced with serious challenges in institutional and governance structures, which feed into imbalances in enrollment rates across governorates, urban versus rural areas, gender disparities in education, and shortage of teachers in needed grades and subjects. This section presents the sector's and the government's proposed strategies to overcome the bottlenecks in fulfilling basic education targets.

2.1 General Trends (Gross and Grade Specific Enrollment Rates)

The GoY is pursuing a sector strategy for education in a bid to reach universal primary education in the next ten years (by 2015) under the motto of "Education for All" (EFA). The structure of the education system comprises nine years of compulsory basic education followed by three years of general secondary education. Through multiple projects defined in its education strategy, the GoY is aiming to make both quantitative and qualitative improvements in the education system. In corollary, the government has committed itself in the PRSP to allocate an increased share of its resources to the education sector. Yet, the strains in Yemen's current domestic resources prevent the government from fully achieving the government's EFA goals. Therefore, continued donor involvement will be essential to help Yemen maintain its slight momentum in furthering enrollment and fulfilling access, quality, and institutional capacity targets in the education sector, which are discussed in more detail throughout the section.

The GoY has made some progress in increasing the Gross Enrollment Rate (GER) in line with its National Basic Education Development Strategy (NBEDS). There has been an important rise in enrollment rates for the last three decades and especially since the beginning of NBEDS, which was approved by the GoY in 2002 to provide the overall framework for achieving education and learning outcomes by the year 2015. The GER for Grades 1-9 rose from about 50 percent in 1970 to about 62 percent in 2002 and 77 percent in 2005. The female enrollment rate rose from 15 percent to about 53 percent in the same period, reducing the gender gap from 30 percent in 2002 to about 25 percent in 2005. One of the main factors in the higher GER is the improvements in coordination among partners at the national and local levels through initiatives by Government and Development Partners and Ministries in teacher development and infrastructure development and maintenance.⁸

Despite recent successes, Yemen is still far behind in achieving its set targets in the GER and gender parity. The GoY's overall enrollment target is to raise the basic education GER to 90 percent by 2010 and to 95 percent by 2015 to meet the MDG on universal primary enrollment. Meanwhile, it seeks to reduce the gender gap from 25 percent to 11 percent between 2006 and 2010 and lower the overall illiteracy rate from about 47 percent to less than 30 percent by 2010, with a special emphasis on reducing female illiteracy rates. However, Yemen still has one of the lowest GER and the largest gender gap in basic education in the

⁸ Medium Term Results Framework 2006-2010.

world.⁹ Due to the rapid population growth, the real growth of GER is rather moderate, about 1.43 percent for basic education. The absolute number of students in the basic public education system—and the number of facilities—has grown more rapidly than the enrollment rates, fueled in part by the high rate of population growth. The GER for girls in 2004/5 was only 63 percent while the figure for boys stood at 88 percent (see Table 1).

Table 1: Changes in Indicators for Basic Education between 2000 and 2005

	2000/01	2001/02	2002/03	2003/04	2004/05
Gross Enrollment Rate					
Basic education	73	73	75	76	76
girls	54	56	59	62	63
boys	90	89	90	90	88
Girl's share in enrollment (percent)	36	37	38	39	40
Private sector share in enrollment (percent)	1.3	1.5	1.7	1.8	2.3
Student-teacher ratio	22.8	24.5	25.7	26.5	26.8
Student-class (section) ratio	29.1	30.5	31.0	31.8	32.0

Source: MOE enrollment/ CSO Census 2004 Population and WB Calculation

The overall GER in basic education reveals extreme imbalances across governorates. The GER is 63 percent for girls and 88 percent for boys on the national level.¹⁰ GER and gender disparities manifest significant variations across/within Yemen's governorates (see Table 2 and Figure 1). The GER for the Saadah governorate, for example, is 30 percent lower than the rate of the Al-Mahrah governorate. More importantly, there is striking difference between male and female GER in Saadah. The rate for boys is 71 percent, whereas the female rate is the one of the lowest in the country with 32 percent. In all governorates, these disparities are likely to be far more accentuated across individual districts. Furthermore, these variations are likely to be coupled with variations in the quality of delivery inputs and outcomes across governorates.

Grade-specific enrollment rate (GSER) shows problems similar to the overall GER. Despite significant improvements in the last five years, current levels of survival rates (completion rates) are still very low. Furthermore, the gender gap is very high in survival rates and the GSER (see Tables 3, 4). The GSER for grade 1, often referred as the Access Rate or Gross Intake Rate (GIR), is over 100 percent for the school year of 2004/05, but this rate goes down to 62.2 percent for grade 6 (see Table 4). Inversely, the number of students decreases as they move on to higher grades, particularly of girls, due to high rates of repetition and drop outs. The gender gap for the access rate stands very high at over 20 percent for all grades (see Table 4). More importantly, the gap increases by grade level. The survival rate for grade 6, where the scale is often called the Primary Completion Rate (PCR), stands at 73.8 percent for male and only 49.3 percent for female (see Table 4). The gender gap at this level is still very high at 24.6 percent. The Basic Completion Rate (BCR) for the 9th grade, which is the final level of schooling in Yemeni basic education, is 57.4 percent for

⁹ The low enrollment rate for girls, especially in rural areas, is attributed to a range of supply and demand constraints, including the far distance to the nearest school, cultural factors that discourage girls' education, lack of separate schools, and an insufficient number of female teachers. Recruiting female teachers is crucial to increase girls' participation in education, especially in rural areas. Budgetary and education issues have impeded the recruitment of female teachers. The number of teachers in basic education rose from 51,776 in 1990/91 to 171,396 in 2002/03. Female teachers have increased, but still only constitute about 21 percent of the basic education staff.

¹⁰ Only 33 percent of girls in rural areas were enrolled in schools, compared to 73 percent of boys. Female enrollment rate is 78 percent in urban areas. More than 70 percent of the population lives in the rural areas.

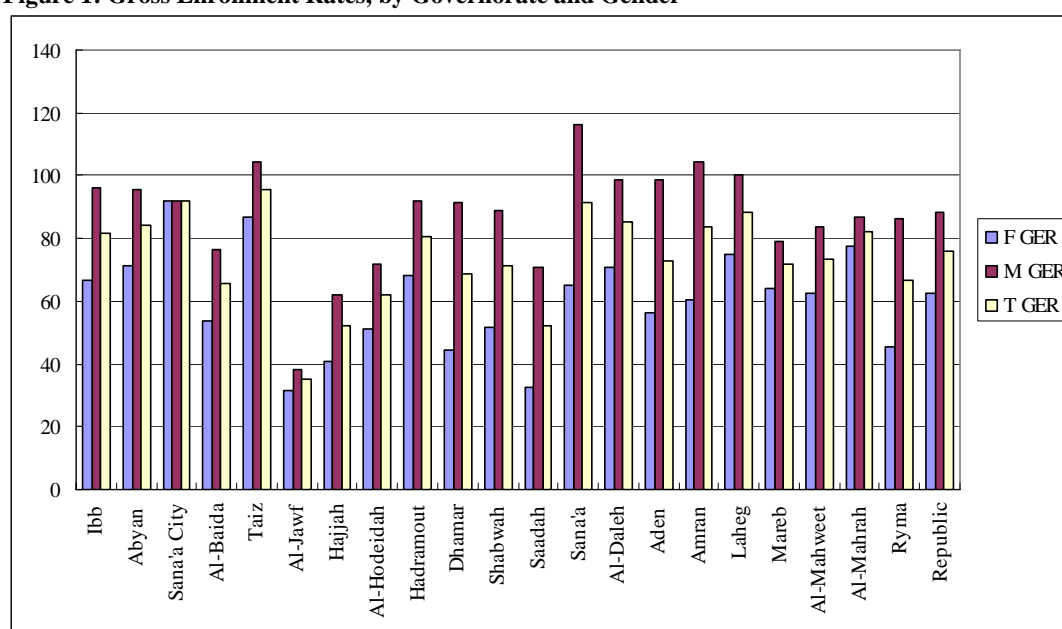
male and only 28.8 percent for female (see Tables 3 and 4 for these numbers and Figure 2 for observing the trend across grades). The great variation across regions as well as between urban and rural¹¹ areas makes it particularly difficult to cope with poor survival rates and gender imbalances.

Table 2: Basic Education (G1- 9) Gross Enrollment Rate by Gender and by Governorate, 2004/05

	Enrollment	F GER	M GER	T GER
Ibb	508,388	67	96	82
Abyan	92,357	71	96	84
Sana'a City	367,350	92	92	92
Al-Baida	111,188	54	76	65
Taiz	633,715	87	105	96
Al-Jawf	50,326	32	38	35
Hajjah	229,705	41	62	52
Al-Hodeidah	334,966	51	72	62
Hadramout	203,404	68	92	81
Dhamar	255,911	44	92	69
Shabwah	97,006	52	89	71
Saadah	103,673	32	71	52
Sana'a	232,007	65	116	91
Al-Daleh	112,335	71	99	85
Aden	113,001	56	99	73
Amran	208,820	61	105	84
Laheg	169,817	75	100	88
Mareb	51,539	64	79	72
Al-Mahweet	100,558	63	84	73
Al-Mahrah	18,036	77	87	82
Ryma	75,138	45	86	66
Republic	4,069,240	63	88	76

Source: MoE Annual Educational Survey 2004/05 and Population Census 2004

Figure 1: Gross Enrollment Rates, by Governorate and Gender



¹¹ There is a need to expand service delivery in rural areas by (i) building, extending, rehabilitating, equipping and furnishing classrooms in rural areas and (ii) recruiting and training teachers.

Table 3: Trend in Grade-Specific Enrollment Rate, 1997/98-2004/05								
GSER	98/99	99/00	00/01	01/02	02/03	03/04	04/05	
1	81.8	91.6	97.9	103.8	107.3	109.3	111.5	Access Rate
2	77.7	78.4	87.8	90.1	94.0	96.4	96.1	
3	66.9	73.8	76.1	79.5	81.7	83.8	83.6	
4	64.9	67.9	74.8	74.8	77.4	77.7	79.8	
5	58.8	60.6	64.5	67.2	66.6	67.3	68.0	
6	56.2	58.0	61.3	62.0	63.3	62.0	62.2	Primary Completion Rate (6th)
7	47.7	50.6	52.7	54.2	54.0	53.7	52.3	
8	41.0	44.3	48.3	47.5	49.2	48.0	47.0	
9	36.4	39.5	43.6	44.3	43.7	44.2	43.7	Basic Completion Rate (9th)
S1	0.0	30.2	39.3	40.8	43.0	43.7	43.9	
S2	0.0	24.7	31.7	32.0	33.3	35.2	31.9	
S3	0.0	24.3	31.5	33.6	33.2	33.8	34.2	Secondary Completion Rate (12th)

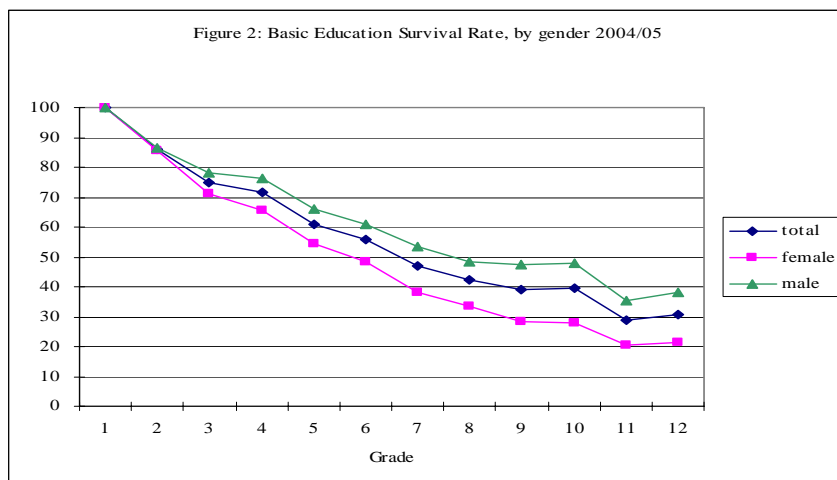
Source: MOE enrollment/ CSO Census 2004 Population and WB Calculation

Table 4: Survival Rate and Grade Specific Enrollment Rate by Gender, 2004/05

Grade	Grade-Specific Enrollment Rate				Survival Rate ^{1/}			
	total	female	male	gender gap ^{2/}	total	female	male	gender gap ^{2/}
1	111.5	101.8	120.8	-19.0	100.0	100.0	100.0	0.0
2	96.1	87.3	104.4	-17.1	86.1	85.8	86.4	-0.7
3	83.6	72.3	94.2	-22.0	74.9	71.0	78.0	-7.1
4	79.8	66.8	91.9	-25.1	71.6	65.7	76.1	-10.4
5	68.0	55.3	79.6	-24.3	61.0	54.3	65.9	-11.6
6	62.2	49.3	73.8	-24.6	55.8	48.4	61.1	-12.7
7	52.3	38.7	64.5	-25.8	46.9	38.0	53.4	-15.4
8	47.0	34.1	58.6	-24.6	42.1	33.5	48.6	-15.1
9	43.7	28.8	57.4	-28.6	39.2	28.3	47.5	-19.2
S1	43.9	28.6	58.1	-29.4	39.3	28.1	48.1	-20.0
S2	31.9	20.9	42.5	-21.6	28.6	20.5	35.2	-14.7
S3	34.2	21.6	46.2	-24.6	30.7	21.3	38.3	-17.0

Source: MOE enrollment/ CSO Census 2004 Population and WB Calculation

Notes: ^{1/} Here, pseudo cohort survival rate using cross-sectional data. Having number of non-repeaters of grade 1 as 100, survival rates measures how much percent of students move onto the upper levels. ^{2/} Gender gap = rate for female - rate for male



2.2 Broad Government Strategies

The GoY has developed a Basic Education Strategy for the years 2003-2015 and has started the implementation through the EFA—Fast Track Initiative. The GoY aims to attain universal primary education by 2015. The strategy includes strengthening the capacity to plan, manage, and monitor improvements at all levels. It also includes training of educational personnel and increasing enrollment and completion rates through increasing capital investments and strong community participation. Despite some progress, Yemen is considered off track for achieving Education for All (EFA) by 2015 because of the following impediments:

- *Weak implementation and staff capacity:* In general, the weak capacity of civil servants represents a main constraint in the reform efforts. Staff capacity is the thrust of public sector reforms. Without qualified staff, it is quite impossible to implement reforms and achieve results. As presented in the following section, the government fell short of its targets for building schools, recruiting teachers, and shedding non-teaching personnel.
- *Rate of population increase:* Rapid population growth stresses the country's resources and adds extra burden on the government to meet its education targets. Enrollment growth in basic education barely keeps up with the population growth rate. More importantly, grade specific enrollment rates (see tables 3 and 4) decline pretty evenly across grades, which reflects a lack of incentives and payoffs to finish at least finish primary schooling.
- *High levels of investment requirements:* It is quite difficult for the GoY to keep up with the financing requirements of EFA by 2015 targets. The magnitude of the task is so huge that Yemen's current domestic resources are not sufficient to fully achieve the government's EFA goals. Therefore, continued donor involvement will be essential to help Yemen maintain its slight momentum in furthering enrollment and increasing quality in the education sector.

Keeping these challenges in mind, the NBEDS was approved by the GoY in 2002 (see Table 5). There are several proposed programs to achieve targets defined in NBEDS in the areas of access, quality, and institutional capacity.

- **Access:** To fulfill access targets, the primary initiative of the GoY is the *Household Incentive Program* that aims to promote enrollment and increase female literacy rates. Cabinet decree No. 41 of 2006 has already been implemented under this initiative, which waived school fees for grades 1 to 3 for both boys and girls and for grades 1-6 for girls only.¹² Another proposal is to enhance enrollment rates through schools by providing subsidies to households for textbooks and other learning materials, uniforms, and nutrition.¹³ The second initiative is the *Infrastructure and School Facilities Development Program*, which aims to promote the effective use of available resources, promote construction of new classrooms, and streamline locating schools through school mapping and Governorates. One proposal under this initiative is the use of various programming options such as multi-grades and double-shifts, while another is to strengthen the ongoing review of rehabilitation and building costs. The third initiative is *School Level Management and Community Participation Program*, designed to strengthen the quality of administration and operation of schools. The

¹² This decision was taken in addition to the GoY's waiver of fees for girls from grades 1 to 6, endorsed in 2002.

¹³ This initiative was developed in line with the *conditional cash transfer* programs that have been successfully implemented in many other countries, such as Bangladesh, Pakistan, and Turkey.

program proposes to hold consultations with the communities and parents to better understand the economic and cultural barriers behind school enrollment.

- **Quality:** The GoY's priorities in quality enhancement efforts in basic education are setting learning achievement targets by subject and by grade (1 to 9) and finding ways to better monitor these learning achievement targets, in line with national and international standards. The *Learning Achievement and Curriculum Program* will be a joint initiative, encompassing all agencies with the mandate of curriculum and teacher development, as well as testing and quality control. The *Teacher Development Program* seeks to clarify the qualifications for teacher selection and their deployment. A supporting initiative of the above two will be the *Learning Materials Development Program*, which will focus on ensuring a careful scrutiny of learning materials and their appropriateness for learning achievement targets.
- **Institutional Capacity:** The aim in this area is to promote an effective sector management framework to coordinate all partners involved in basic education policy and strategy; and to generate an organizational structure to implement programs. In this direction, the GoY has designed a *Sector Management Framework Development Program* which will require the Ministry of Education (MoE) to work with the MoF, Ministry of Local Administration (MoLA), Ministry of Civil Service and Administrative Reform (MoCSAR) and other key ministries and development partners on resource allocation to achieve NBEDS. The second initiative to enhance institutional capacity is the *Sector Organization and Technical Capacity Program*, which calls on partners to jointly identify key function areas and the skills needed to implement the programs (i.e., the personnel requirement, the operating costs for each function, and the decision-making forums at the centralized and decentralized levels of Government).

Table 5: Summary of Proposed NBEDS Outcomes	
1) Access Targets	
i)	Overall Gross Enrollment Rate (GER) to raise from 77 percent to 90 percent
ii)	Gender gap to reduce from 25 percent to 11percent
iii)	Illiteracy overall from about 47 percent to less than 30 percent, targeting mainly females.
2) Quality Targets	
iv)	Quality measured by learning achievement grades 1 to 9 by subject with 2005 as the benchmark.
3) Institutional capacity targets	
v)	Coordinated government led implementation of NBEDS with a sector management framework that coordinates all partners, and an organization structure with the requisite skills to effect implementation of strategies, policies, and programs.

Source: Medium Terms Results Framework 2006-2010

2.3 Roles and Responsibilities in Education Sector Financing

Both central and local governments finance education expenses. Education expenses are shared between central and local governments (Table 6). Capital expenditure consists of a high share of central government financing (MoE). In contrast, wage and salary expenditures are registered at the governorate level. As presented in Figure 3, more than 99 percent of wage and salary expenditures and 75 percent of maintenance expenditures¹⁴ are registered at the governorate level, whereas the central government is responsible for all other types of expenditures. In addition to government financing, students/parents are expected to make

¹⁴ Total maintenance expenditures are less than a percent of total education expenditures—it is around 0.2 percent of total education expenditures.

financial contributions to the sector. Until recently, students were responsible for paying the academic year fees (abolished in 2006). Parents' councils may also ask for additional resources from the District Education Office (DEO). Finally, donor agencies are providing financial contributions to the education sector, especially for construction projects.

Figure 3: Breakdown of Wage and Non-wage Expenditures (2005)

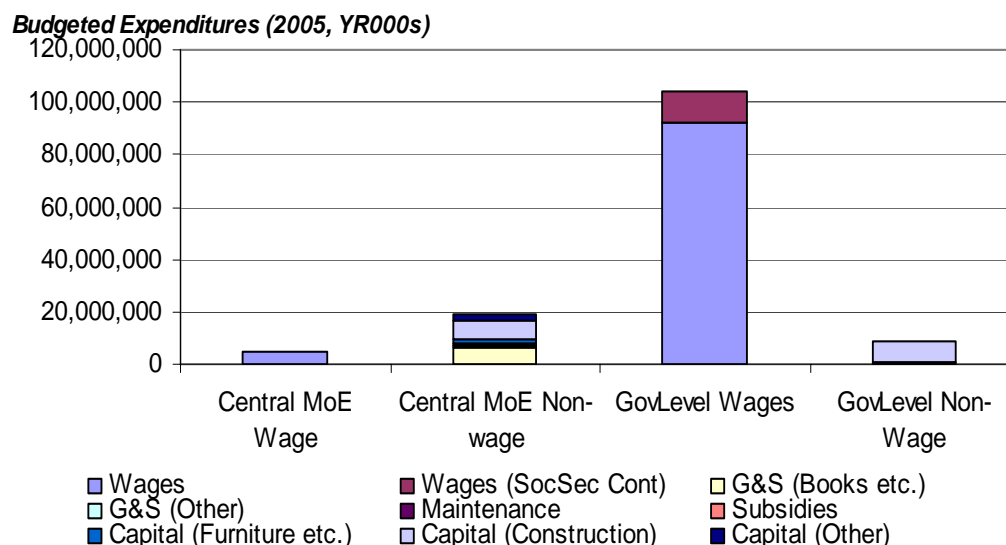


Table 6: Budgeted Expenditures (2005)

Expenditure Items	Central Government Level (MoE)	Governorate Level
Wages	4,527,605	92,157,439
Wages (Social Security Contributions)	33,670	11,974,237
G&S (Books etc.)	6,102,000	41,390
G&S (Other)	1,260,000	414,979
Maintenance	59,600	186,331
Subsidies	133,787	0
Capital (Furniture etc.)	1,663,372	56,038
Capital (Construction)	7,553,975	7,964,366
Capital (Other)	2,347,482	406,853

At the local level, both governorates and districts are involved in the financing and service delivery aspect of the education sector. Governorates receive their budget ceiling amount from the MoF and allocate it among the districts in their jurisdiction. Governorates also are responsible for transferring the funds collected by the local level on behalf of the central government to the MoF through the Central Bank of Yemen. The DEO is responsible for requesting resources for the district. These resources are then transmitted to the Governorate Education Office (GEO). The DEO is a coordination point between service delivery units—schools—and other higher governmental levels. The schools in Yemen neither receive nor anticipate significant amounts of cash allocations from higher levels of government. Almost all allocations are delivered in-kind (e.g., textbooks, chalks, equipment) and procured at the central level.

Multiple levels of government are currently involved in the planning, oversight, and financing of the education sector (Box 1). At the central level, the MoF, MoE and MoLA play an important role in the financing and service delivery of the education sector. The MoF sets budget ceilings for both the MoE and local governments (namely governorates). The

MoF also is responsible for releasing funds in line with the approved budget. For recurrent expenditures, funds are released on a semi-annual basis. The MoF releases the funds for capital expenditure items on a case-by-case basis. On the other hand, the MoE plays an important role in executing capital budget related to construction projects. The MoLA, in coordination with the MoF, identifies the amount and the allocation basis of central government support to local governments. Local governments then use these allocations for capital budgeting.

Box 1: Structure of Education Finance

	Capital Expense	Current Expenditure	
		Wage and Salary	Other
Ministry of Finance	Projects are not systematically evaluated in relation to their economic and social impacts	De facto ceilings details and decisions on promotion, retirement, and new hiring are provided by the MOCSAR	Very little for non-wage related current expenditure
Ministry of Education	Executive	MoE has a role in promotion, retirement, new hiring in coordination with the MOCSAR	Executive
Ministry of Local Administration	Technically, all subnational governments (governorates and districts) report to MoLA. Once the governorate's consolidated budget is approved by the local council of the governorate, according to the bylaw, the governor should submit it to MOLA. However, in practice, proposals are submitted to the MoF with a copy being sent to MOLA.		
Governorate	<p>The executive office (heads of the branch offices of ministries) of local districts prepares a draft annual budget and submits it to the local council for approval. Before the full council discussions on the budget, the board of directors (secretary general and the chairmen of three special committees—planning, development and finance; services; and social affairs) reviews them. According to the local authority financial bylaw, once the local council approves annual budget proposals, it should forward them to the governorate by July 15.</p> <p>Once the Governor receives the draft budgets for all districts, s/he forwards them to the Plan and Budget Committee of the governorate comprising the governor, the secretary general of the local council of the governorate, the chairmen of the special committees of the local council for the governorate, and the general directors of the ministries of finance, civil service, and planning in the governorate. The committee analyzes and makes necessary modifications to the drafts. The committee then submits the consolidated draft budget to the local council of the governorate for approval.</p>		
District	Local councils can use their own source revenues for capital investment.	Local councils are not allowed to spend their own revenues on current expenditures by law.	
School	No control	No control	School fees have been used for school specific expenditure- usually maintenance
Parental Committee			Social Fund-financed projects have parents' maintenance committees (nearly 60 percent of schools).

The MoF releases budget funds for recurrent expenditures twice a year.¹⁵ The final monthly account contains all budgeting line items for revenues and expenditures, as well as columns for current month and year-to-date accumulated figures. Neither current month nor year-to-date figures are compared with the budgeted figures. It is a common practice in Yemen to look into the budget execution performance at the end of the fiscal year (by both the MoF and the Central Bureau for Auditing and Accounting [CBAA]) rather than during the fiscal year. Therefore, the effectiveness of internal control systems is highly questionable. All

¹⁵ See Annex A for a detailed discussion of budget preparation and execution at different levels.

payment checks are signed by the accounts manager, financial controller, and the minister (although the minister has delegated the responsibility to his deputy). Both the accounts manager and the financial controller in the MoE are MoF employees.

The budget preparation process at the local level starts when governorates receive the MoF's budget circular. The executive office (heads of the ministry branch offices) of local districts prepares a draft annual budget and submits it to the local Council for approval. Each ministry's office at the district level prepares the budget for the next fiscal year, which is then reviewed by district's budget committee. The estimated district revenue amount is allocated to different line agency offices at the district level. Once a district prepares its budget, the proposal is then sent to the governorate budget committee for review and approval. Once the Governor receives the draft budgets for all districts, s/he forwards them to the Plan and Budget Committee of the governorate. In general, 40 percent of the estimated revenues are allocated to the MoE, and 30 percent is allocated to the Ministry of Health (MoH). This amount does not include central government transfers, which is used for the wage and salary expenditures.

The MOF's budget circular provides general instructions to subnational governments about their allocations using a process of incremental budgeting with a de-facto ceiling for wages and salaries,¹⁶ which are, by far, the largest share of current expenditures. These instructions are restrictive in that recurrent expenditures are given no flexibility to account for shifting subnational government priorities. For example, they do not leave room for essential operation and maintenance (O&M) expenditures that have been historically under budgeted. Furthermore, during the capital budget preparation process, there is little consideration for future operations and maintenance requirements of capital investments. The incentive structure is in favor of new investments, which contributes to the depletion of the capital stock and the inflation of future investment requirements. The Local Authority Law of 2000 does not allow local governments to spend their own source revenues on operations and maintenance expenditures; they can only make capital expenditures.

An important issue in the context of budget preparation is monitoring and evaluation. Although local governments' budgetary and personnel decisions are subject to central government control and provision, the central government lacks information on the service delivery performance of frontline service delivery units. Monitoring and evaluation requires developing a local information system that establishes baseline service delivery indicators at the school level. The MoE should consider ways to make individual schools fully accountable to their respective constituencies for delivering quality public services.

Recognizing the need for financial commitment to fulfill NBEDS targets, the GoY has substantially increased public expenditure for education.¹⁷ The education sector is the largest item in total government expenditure, floating around 20 percent. Public schooling is highly subsidized at all levels with minimal direct costs to parents. Parental contribution was limited to 150 RY (less than a dollar) annually, and will be waived from 2006/07 school year, which will create an additional financial burden on the public expenditure. Overall, as shown in Table 7, the share of education expenditures in gross domestic product (GDP) increased from 5.2 percent in 1997 to 6.8 percent in 2002 and dropped to 6.2 percent in 2004. The share

¹⁶ Details and decisions on promotion, retirement, new hiring are provided by the Ministry of Civil Service & Administrative Reform (MOCSAR).

¹⁷ Private education accounts for a small fraction of overall enrollment, but has expanded rapidly in the past few years to 1.8 percent, albeit from a very low starting base.

of education expenditures in total public expenditures follows the same trend as it increased from 15 percent in 1997 to 20.7 percent in 2002 and dropped to 16.7 percent in 2004. The budgeted figures show that this share will be 21.2 percent in 2005 and 15.6 percent in 2006.

Table 7: Public Expenditures in Education, 1997-2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Budget	Budget
Nominal GDP (YR billion)	878.9	844.2	1172.8	1538.6	1628.1	1811.4	2067.2	2385.1	n/a	n/a
Annual Average Exchange Rate (per US\$)	129.3	135.9	155.8	161.7	168.7	175.6	183.5	184.8	n/a	n/a
Total Government Expenditure										
Total Government Expenditure (current YR billion)	307.6	301.4	342.9	502.4	522.4	593.9	777.1	890.0	836.4	1180.0
Current expenditures (current YR billion)	244.1	231.6	266.6	381.9	394.2	441.4	526.4	624.6	582.8	871.0
Capital expenditures (current YR billion)	58.5	62.9	69.5	111.9	112.5	136.7	236.7	251.2	234.5	290.9
Debt repayment	5.0	7.0	6.8	8.6	15.6	15.8	14.0	14.2	19.1	18.1
Overall Public Education Expenditures										
Total expenditures (current YR billion)	46.1	56.7	67.3	88.8	101.7	122.9	133.3	148.7	177.1	184.3
Total expenditures (current US\$ million)	(356.6)	(417.4)	(431.9)	(549.2)	(602.8)	(699.9)	(726.8)	(805.)	n/a	n/a
<i>as share of total public expenditures (percent)</i>	15.0	18.8	19.6	17.7	19.5	20.7	17.2	16.7	21.2	15.6
<i>as share of GDP (percent)</i>	5.2	6.7	5.7	5.8	6.2	6.8	6.4	6.2	n/a	n/a
Current expenditures (current YR billion)										
Current expenditures (current US\$ million)	(285.6)	(327.8)	(378.1)	(498.)	(540.9)	(640.6)	(633.5)	(686.1)	n/a	n/a
<i>as share of total public current expenditures (percent)</i>	15.1	19.2	22.1	21.1	23.1	25.5	22.1	20.3	24.5	16.8
<i>as share of GDP</i>	4.2	5.3	5.0	5.2	5.4	5.9	5.3	5.0	n/a	n/a
Capital expenditures (current YR billion)										
Capital expenditures (current US\$ million)	(70.9)	(89.6)	(53.9)	(51.3)	(61.9)	(59.3)	(93.3)	(118.8)	n/a	n/a
<i>as share of total public capital expenditures (percent)</i>	15.7	19.4	12.1	7.4	9.3	7.6	7.2	8.7	14.7	13.1
<i>as share of GDP (percent)</i>	1.0	1.4	0.7	0.5	0.6	0.5	0.8	0.9	n/a	n/a

Source: Budget and Expenditure data from the MoF. Exchange rate from Central Bank of Yemen.

Within total education expenditures, recurrent expenditures are the largest item (see Table 8). Due to their high share within total expenditures, recurrent expenditures follow a growth trend quite similar to that of total education expenditures. During the last four years, wages and salaries accounted for about 75 percent of the recurrent expenditures and 65 to 70 percent of total education expenditures. Meanwhile, it is very difficult to determine whether these expenditures actually help to improve quality of the services.¹⁸ In this regard, the education system suffers from the lack of a monitoring and evaluation (M&E) system (i.e., standardized tests and teacher performance scores) to measure student achievement and teacher quality, respectively.

Table 8: MoE Central and Governorate Total Expenditures (Nominal/In billion YR)

Year	2000	2001	2002	2003	2004	2005	2006
	Actual	Actual	Actual	Actual	Actual	Budget	Budget
Total	66.73	82.61	100.75	106.56	119.09	136.88	139.42
Recurrent	62.75 (94.0 %)	78.06 (94.5 %)	95.08 (94.4 %)	96.29 (90.4 %)	104.61 (87.8 %)	116.89 (85.4 %)	118.32 (84.9 %)
Salary and Wages	46.27	60.24	78.37	78.84	86.10	96.69	97.75
Goods and Services	7.72	8.44	7.60	7.56	7.55	7.82	8.00
Maintenance	0.18	0.22	0.16	0.17	0.16	0.25	0.26
Transfer/ Support	8.57	9.36	8.95	9.72	10.79	12.14	12.30
Capital	3.98 (6.0 %)	4.55 (5.5 %)	5.67 (5.6 %)	10.27 (9.6 %)	14.48 (12.2 %)	19.99 (14.6 %)	21.11 (15.1 %)

There is a great variation in total education expenditures across governorates (see Table 9). Table 9 presents total education expenditures by governorates in 2005. More than 90 percent of education expenditures at the governorate level are spent on the recurrent expenditure items. The biggest item in governorate education expenditures is salary and wages, which amount to 84 percent of total education spending at the governorate level. The share of capital expenditures in governorate education expenditures is only 8 percent of the total. On the other hand, the share of capital expenditures at the central Ministry of Education level is as large as the recurrent expenditures.

There is a great variation in per student education expenditures across governorates (see Table 10). In order to calculate per student education expenditures, we divided the figures in Table 9 with the student enrollment figures for 2004/5 (presented in Table 2). The calculations in Table 10 show that Abyan governorate has the highest amount of per student total education expenditures at YR 50,228, whereas Sana'a City has the lowest figure at YR 20,879. The gap in per student expenditures among governorates is particularly visible in recurrent education expenditures per student. Sana'a city and Ibb have the two lowest recurrent education expenditures per student—YR 17,166 and YR 20,899—whereas they are as high as 48,466 YR in Abyan and YR 36,178 in Aden. This variation, which points to grave inequalities in the country, is largely due to the differences in salary and wages, followed by government transfer/support per student.

¹⁸ A major issue in the education sector is the quality of service. Although Yemen spends a high share of its budgetary resources on education, anecdotal evidence suggests that the quality of education is low.

Table 9: Education Expenditures in 2005 (in thousand YR)

	Total	Capital	Recurrent	Salary &Wages	Goods&Services	Maintenance	Transfer/Support
Sana'a City	7,670,002	1,364,000	6,306,002	5,504,310	77,110	9,414	715,168
Sana'a	5,857,857	499,491	5,358,366	4,696,356	20,133	31,821	610,056
Aden	4,656,231	568,133	4,088,098	3,570,000	43,819	10,972	463,307
Taiz	15,836,038	582,367	15,253,671	13,468,831	25,350	8,850	1,750,640
Hadramout	7,183,907	781,646	6,402,261	5,576,277	81,203	22,157	722,624
Al-Hodeida	8,984,358	300,102	8,684,256	7,662,896	16,716	8,526	996,118
Lahej	6,000,863	247,762	5,753,101	5,074,165	13,581	5,783	659,572
Ibb	11,145,977	521,012	10,624,965	9,379,478	16,954	9,569	1,218,964
Abyan	4,638,953	162,788	4,476,165	3,941,082	16,903	5,903	512,277
Hajja	6,861,656	596,649	6,265,007	5,523,401	15,320	8,413	717,873
Dhamar	7,542,505	529,659	7,012,846	6,193,771	7,750	6,252	805,073
Shabwah	3,377,880	192,235	3,185,645	2,802,805	12,057	6,472	364,311
Al-Mahra	801,797	221,629	580,168	499,678	9,975	5,636	64,879
Saada	3,066,951	340,163	2,726,788	2,401,753	6,808	6,164	312,063
Al-beida	2,681,973	220,216	2,461,757	2,164,968	10,018	5,416	281,355
Al-Mahawet	3,385,724	181,518	3,204,206	2,822,873	8,571	5,990	366,772
Mareb	1,952,031	200,142	1,751,889	1,536,963	9,463	5,749	199,714
Al-jowf	1,526,361	107,154	1,419,207	1,235,913	13,803	8,860	160,631
Amran	5,151,107	426,138	4,724,969	4,167,572	8,901	6,821	541,675
Al-Daleh	2,995,760	273,302	2,722,458	2,370,980	37,634	5,763	308,081
Ryma	1,883,702	111,151	1,772,551	1,563,367	4,300	1,800	203,084
Governorate Total	113,201,633	8,427,257	104,774,376	92,157,439	456,369	186,331	11,974,237
MoE	23,681,491	11,564,829	12,116,662	4,527,605	7,362,000	59,600	167,457
Grand Total	136,883,124	19,992,086	116,891,038	96,685,044	7,818,369	245,931	12,141,694

Table 10: Per Student Education Expenditures in 2005 (in YR)

	Total	Capital	Recurrent	Salary&Wages	Goods&Services	Maintenance	Transfer/Support
Sana'a City	20,879	3,713	17,166	14,984	210	26	1,947
Sana'a	25,249	2,153	23,096	20,242	87	137	2,629
Aden	41,205	5,028	36,178	31,593	388	97	4,100
Taiz	24,989	919	24,070	21,254	40	14	2,763
Hadramout	35,318	3,843	31,476	27,415	399	109	3,553
Al-Hodeida	26,822	896	25,926	22,877	50	25	2,974
Lahej	35,337	1,459	33,878	29,880	80	34	3,884
Ibb	21,924	1,025	20,899	18,449	33	19	2,398
Abyan	50,228	1,763	48,466	42,672	183	64	5,547
Hajja	29,872	2,597	27,274	24,046	67	37	3,125
Dhamar	29,473	2,070	27,403	24,203	30	24	3,146
Shabwah	34,821	1,982	32,840	28,893	124	67	3,756
Al-Mahra	44,455	12,288	32,167	27,704	553	312	3,597
Saada	29,583	3,281	26,302	23,167	66	59	3,010
Al-beida	24,121	1,981	22,140	19,471	90	49	2,530
Al-Mahawet	33,669	1,805	31,864	28,072	85	60	3,647
Mareb	37,875	3,883	33,992	29,821	184	112	3,875
Al-jowf	30,329	2,129	28,200	24,558	274	176	3,192
Amran	24,668	2,041	22,627	19,958	43	33	2,594
Al-Daleh	26,668	2,433	24,235	21,106	335	51	2,743
Ryma	25,070	1,479	23,591	20,807	57	24	2,703
Governorate Total	27,819	2,071	25,748	22,647	112	46	2,943
MoE	5,820	2,842	2,978	1,113	1,809	15	41
Grand Total	33,638	4,913	28,726	23,760	1,921	60	2,984

In the last 5 years, the number of teachers in public schools has not increased (see Table 11). Between 2000 and 2005, the number of teachers in public schools has not increased although the number of students has increased more than 700,000 in the same period. The student-teacher ratio has gone up from 22.9 in 2000/01 to 27.1 in 2004/05. Consequently, the class size has increased from 29.9 to 32.9 in the same period, which has a damaging effect on the educational quality and generates additional difficulties for both students and teachers in terms of achieving learning outcomes.

Table 11: Number of Teachers and Students in All Schools versus Government Schools 2000-2005

	2000/01	2001/02	2002/03	2003/04	2004/05
All Schools					
Number of teachers					
Basic	149,388	145,862	146,574	149,419	170,864
Secondary	24,916	24,747	24,936	25,119	6,295
Total	174,304	170,609	171,510	174,538	177,159
Number of students					
Basic	3,401,508	3,572,265	3,765,169	3,955,751	4,073,155
Secondary	484,573	520,688	549,363	588,995	595,214
Total	3,886,081	4,092,953	4,314,532	4,544,746	4,668,369
Student Teacher Ratio					
Basic	22.8	24.5	25.7	26.5	23.8
Secondary	19.4	21.0	22.0	23.4	94.6
Total	22.3	24.0	25.2	26.0	26.4
Class size					
Basic	29.1	30.5	31.0	31.8	31.7
Secondary	34.7	36.3	36.5	38.6	39.5
Total	29.7	31.1	31.6	32.6	32.5
Government Schools Only					
Number of teachers					
Basic	146,450	142,775	143,169	144,613	146,971
Secondary	24,382	24,131	24,282	24,303	24,130
Total	170,832	166,906	167,451	168,916	171,101
Number of students					
Basic	3,356,572	3,518,727	3,702,680	3,885,681	3,979,193
Secondary	477,862	513,265	540,096	579,292	583,596
Total	3,834,434	4,031,992	4,242,776	4,464,973	4,562,789
Student Teacher Ratio					
Basic	22.9	24.6	25.9	26.9	27.1
Secondary	19.6	21.3	22.2	23.8	24.2
Total	22.4	24.2	25.3	26.4	26.7
Class size					
Basic	29.3	30.6	31.1	32.0	32.0
Secondary	35.0	36.7	36.9	39.2	40.2
Total	29.9	31.2	31.7	32.8	32.9

Source: MoE Annual School Surveys raw data; Calculation by the World Bank (WB) according to the method agreed in June 2006 Supervision Mission because of the discrepancy between number of teachers recorded in Annual School Survey and Payroll. Number of basic teachers in Basic-Secondary (BS) combined schools is calculated by using the number of basic sections (classes) in BS schools as the share.

Increased public funding for basic education resulted in a rise of girls' and mixed schools. During the 2000-2005 period, the number of schools increased from 13,162 to 14,414 (See Table 12). Among all of the basic and secondary schools, the number of boys' schools decreased from 1,965 to 1,319, while girls' schools and mixed schools increased from

799 to 886 and from 10,938 to 11,744, respectively. However, the actual number of boys' schools exceeds girls' schools by about 50 percent. To increase girls' participation in education, the GoY plans to implement new projects within the Medium Term Result Framework.¹⁹ These projects include subsidies to female teachers and cash or in-kind subsidies to poor families.

Table 12: Trend in Number of Schools by Level and Type, 1999/00-2003/04

		1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2004/05 Urban	2004/05 Rural
Basic	Boys	1442	1260	1108	1029	906	831	214	617
	Girls	515	501	484	536	554	582	165	417
	Mixed	7943	8169	8323	8728	9224	9636	647	8989
Secondary	Boys	101	107	105	122	120	122	84	38
	Girls	26	28	30	38	40	43	37	6
	Mixed	108	114	129	133	140	142	36	106
Basic- Secondary	Boys	422	439	394	300	293	283	97	186
	Girls	258	294	306	285	292	301	141	160
	Mixed	2347	2478	2598	2570	2384	2474	333	2141
Total	Boys	1965	1806	1607	1451	1319	1236	395	841
	Girls	799	823	820	859	886	926	343	583
	Mixed	10398	10761	11050	11431	11748	12252	1016	11236
All schools		13162	13390	13477	13741	13953	14414	1754	12660

Source: MoE Annual Educational Survey raw data

¹⁹ The Medium Term Results Framework (MTRF) outlines the proposed strategies, policies and programs to achieve theNBEDS outcomes for the period 2006 to 2010.

Section 3: Formal and Informal Public Financial Management and Civil Service Practices²⁰

This section of the report summarizes the main findings of a background study prepared for the PEMT project. The study documents the actual/informal behaviors in three selected governorates and how these deviate from formal regulations in (i) teacher deployment and salary payments, (ii) teacher and student attendance, and (iii) resource allocations to schools, most notably textbooks and furniture. The gap between formal rules and actual practices in large part is nourished by a lack of trust across levels of government. This deviation between formal rules and actual practice is clearly reflected in the problems Yemen faces in teacher management and resource allocation issues, for example the malfunctioning rural allowance scheme and the substitute teacher system. The section shows that, although the policies on paper are formulated in a detailed and encompassing manner, the monitoring and implementation capacity is weak, leading to many misuses and corrupt practices.

3.1 Selection of Governorates and Research Methodology

The study is based on a desk review of formal rules and field visits to three selected governorates—Abyan, Taiz and Hajjah—specifically chosen to reflect the diversity of educational management capacity and outcomes. Within these three governorates, 12 districts were identified by paying particular attention to cover both urban and rural districts. In those 12 districts, a total of 16 schools were selected for field visits.

As Tables 13 and 14 show, these three governorates have enrolled 20 percent of total basic school students in 2004/2005 and around 30 percent of the existing teaching force in basic schools. In the selection of districts within these three governorates, the task team paid special attention to cover both urban and rural areas. As indicated in Table 15, twelve districts were selected: three urban and nine rural. In the selection of schools within rural districts, the MoE's classification scheme for rural allowance was applied. The MoE's rural allowance scheme classifies districts into 7 groups according to their remoteness. The rural allowance scheme provides wage top-ups to teachers ranging between 30 to 60 percent of the base salary. Teachers who work in districts classified as level 1 receive wage top-ups of 30 percent whereas others who work in districts classified as level 7 receive wage top-ups of 60 percent. In each of these districts, 1-2 schools were randomly selected (see Table 15). A total of 16 schools were selected in the three governorates.

The study's findings rely on interviews conducted at central, governorate, district, and school levels. At the central and governorate level, consultants conducted interviews and held discussions with key stakeholders: general directors of general education, personnel, projects and equipment, and officials at the Office of Civil Service with particular attention to gender-specific situations, which affect women differently from men. At the district level, interviews were held with the district education offices, local councils, and individuals concerned with civil service management and public financial management.

At the school level, the team was responsible for reviewing and summarizing information on school documents (i.e., school records, the monthly reports, attendance sheets, school time table, examination results, leave records). Meanwhile, the researchers were asked to:

²⁰ This section draws on a consultant report: Hassan Ali Abdulmalik, 2006, "Public Financial Management and Civil Service Practices in Yemen's Education Sector." It is available upon request.

- Report on the students' and teachers' attendance in the classrooms and in the school, with a primary focus on presence of female students and teachers.
- Report on the school resource availability and condition.
- Conduct informal talks with teachers about their responsibilities in schools, the process of receiving salaries, the interaction of female teachers with the principal and male colleagues and whether they were subject to any discriminatory treatment by colleagues, school authorities or from government education officials.
- Conduct informal talks with students about actual fees and other amounts paid to school and teachers' regular/irregular attendance, with special attention to female students.

Table 13: Enrollment in Selected Districts 2004/2005

Governorate	Enrollments at MoE basic schools 2004/2005				
	Males	Females	Total	% of Enrolment	% Females
Abyan	50,911	33,567	84,478	3.3 %	39.7
Taiz	160,971	115,772	276,743	10.7 %	43.2
Hajjah	107,661	62,001	169,662	6.6 %	36.5
Nationwide	1,609,959	978,627	2,588,586		

Source: Hassan Ali Abdulmalik, 2006, "Public Financial Management and Civil Service Practices in Yemen's Education Sector"

Table 14: Number of Teachers by Gender 2003/04

Governorate	Number of teachers by gender 2003/04				Pupil-class	Pupil-teacher
	Males	Females	Total	%		
Abyan	3793	2026	5819	5.8	29.1	14.7
Taiz	8423	2039	10462	10.5	35.0	26.5
Hajjah	5760	861	6621	6.6	23.0	24.6
Nationwide	78722	21197	99919	22.9	29.1	25.8

Source: Hassan Ali Abdulmalik, 2006, "Public Financial Management and Civil Service Practices in Yemen's Education Sector"

Table 15: Selected Districts in 3 Governorates

Governorate	Urban Areas	Rural Districts						
		1	2	3	4	5	6	7
		30%	35%	40%	45%	50%	55%	60%
Taiz	1				1	2		
Abyan	1	1				2		
Hajja	1	1		1	1			
Total	3	2		1	2	4		

Source: Hassan Ali Abdulmalik, 2006, "Public Financial Management and Civil Service Practices in Yemen's Education Sector"

3.2 Policies and Practices of Teacher Deployment and Salary Payments

There seems to be an elaborate process to determine the needs at the school level; however all the decisions are taken at the central level. During the budget preparation process, the schools and district education offices estimate their teacher and material needs. Principals submit their needs to the district education officer by gender, level, and specialization on the basis of number of students, classes, available classrooms, and school shift. However there are no criteria for determining the teacher needs; therefore the needs assessment is carried out by principals according to their own norms. Schools and DEOs usually inflate their needs by as much as ten fold. One reason for this behavior is the anticipation of cutbacks from the MoE. For example, at the beginning of the education year 2005/06, schools visited by the team in Taiz and Hajja had requested 12,879 new teachers²¹ but had received only 595 (see Tables 16 & 17). Field visits showed that principals use different ways of justifying schools' current needs, such as (i) to increase number of classes (decrease

²¹ These requests are submitted to the general education sector in the Ministry of Education.

class size), (ii) to institute double shifts, (iii) to re-open previously closed schools. District level needs requests are aggregated at the governorate level, which forms the basis for the governorate level education plans for the next education year. At the central MoE level, all governorate needs are integrated into one national plan.

Schools face shortage of teachers in key subjects such as math and science. There are twice as many teachers available in those 16 schools as the number of classrooms suggesting that there is no shortage of teachers in the system. However, this finding contradicts the planning practices at the school level. School principals often complain about the shortage of qualified teachers, especially for grades 1-6, and they request additional teachers every year. A main reason for this shortage, according to the school principals, is the mismatch between the qualifications of the available teachers and the actual needs in the schools. While these schools have a surplus of teachers in certain subjects, such as Islamic Education, they face shortages of teachers in other key subjects, such as math and science.

Schools face shortage of teachers for Grades 1-6 largely due to antiquated civil service rules. The number of teachers requested for grades 1-6 is higher than the number of teachers requested for grades 7-9 and 10-12 (see Table17). Taiz's requests for the new teachers for grades 1-6 account for 54 percent of its overall teacher request whereas in Hajja this figure is as high as 84 percent. According to the civil service regulations, the minimum qualification requirement for teaching grades 1-6 is a diploma from a two-year pre-service teacher training institute (TTI). For grade 7 and above, the minimum qualification requirement is a bachelor's (undergraduate) degree. Since teachers for grades 1-6 receive lower salaries, none of the university degree holders choose to teach in lower grades. Therefore, there is a shortage of teachers for grades 1-6. Furthermore, there are no TTIs for pre-service training anymore as they are all closed down; therefore, it is not possible to hire new graduates with diplomas and then pay them less. Hence, the only solution to this problem is to raise teachers' salary for grades 1-6 to other teachers' level. In their talks with the team during the field visit, DEO directors expressed their concerns over this problem.

Table 16: Approved New Posts for Taiz, Abyan and Hajja by Level (Qualification) and Gender for 2004/2005

	University degree			Diploma			Secondary	Total
	M	F	T	M	F	T	T	
Taiz	140	90	230	-	-	80	-	310
Hajja	171	29	200	68	7	75	10	285
Abyan	Na	Na	125	Na	Na	55	20	200
Total			555			210	30	795

Table 17: Summary of the Need Plans of Taiz, and Hajja Governorates for 2005

	Teachers of grades 1-6			Teachers of grades 7-9			Teachers of grades 10-12			Total		
	M	F	T	M	f	T	M	F	T	M	F	T
Taiz	2814	0	2814	1566	507	2073	834	492	1326	5214	999	6213
Hajja	5571	0	5571	750	78	828	195	82	277	6416	160	6576
Total	8385	0	8385	2316	585	2901	1029	574	1603	11630	1059	12789
%			65%			23%			12%	91.7%	8.3%	100%

Although the MoE has declared its support for increasing the number of female teachers, the share of female teacher posts is low/underrepresented at the governorate level. The share of female teachers with university degrees in Taiz was 39 percent of the allocated new posts and 15 percent in Hajjah. Table 16 shows that no female teachers were requested for

grades 1-6 whereas 8.3 percent of the new posts for grades 7-12 in Taiz and Hajjah were allocated to female teachers. Female teacher posts are particularly low in rural areas, although rural schools have the highest needs for teachers, because many female teachers find it undesirable to serve in remote schools due to restrictive social norms.

The system for teacher hiring favors the residency of applicants rather than their qualifications (see Box 2). Governorates play an important role in teacher hiring. The candidates for the teaching posts are selected from a database maintained by the MoCSAR office in each governorate. Preference is given to local applicants in hiring, limiting the chances of others living outside the governorate. Employment is considered a social right for the local natives of each district and governorate regardless of the required specialization or level of education.²² If a teacher of English or Math is not available in the district, a local teacher of History or Geography has a much higher chance of being hired compared to a teacher for the needed subject from other governorates. This is one of the reasons for schools ending up with shortages of teachers in certain subjects. Such a system also has adverse consequences for rural areas as it is much more difficult to post the qualified teachers to rural areas. This is not as big a problem for the urban schools as they are able to find enough number of candidates to meet the minimum requirements for qualification.

There seems to be no rule-based relocation policy for teachers, particularly in rural areas. The director of DEO has the authority to transfer a teacher from one location to another within the same district. Yet, the transfer process is not transparent. The name of the teacher often remains on the records and payroll of the initial school due to the lack of timely information and communication between the sender and the recipient school about the transfer. Therefore, names of the personnel on the school records (log book or the monthly report) do not match the names on the school pay roll. The relocation issue has an important bearing on incentives provided by the rural allowance scheme instituted to give monetary incentives to teachers for serving in rural areas. The conviction on the ground is that due to frequent and corrupt teacher relocation practices, this allowance scheme²³ is misused and is far from encouraging teachers to serve in the rural areas.

Box 2: Main Findings of MoCS Evaluation Reports on Teacher Employment (2006)

1. Governorates / districts hire persons who are not among applicants.
2. Governorates / districts hire the less qualified and disqualify the qualified
3. Governorates / districts move posts from a higher level (a degree) to a lower one (diploma) regardless of specialization.
4. Governorates / districts hire persons in non-required specializations.

Source: Department of Planning the Working Force reports of/on assessing the implementation of the job budget (2003, 2004, 2004).

The recent government decree offers a promising step to overcome the current shortcomings teacher deployment and relocation. The MoE formulated a new cabinet decree, No. 167, in May 2006 designed to link teacher posts to schools. In the context of teacher posts to rural areas, the rural allowance scheme instituted to give monetary incentives

²² Hassan Ali, p 14.

²³ The Prime Minister issued the decree No 120 of 1999 concerning the amount of rural allowance scheme. In an attempt to determine the amount of rural allowance by geographical remoteness, the government has classified the rural areas into seven main levels. Teachers receive wage top-ups ranging between 30 percent (for those who work in districts classified as level 1) and 60 percent of their base salary (for those who teach in districts classified as level 7). The districts that are excluded by these seven specified levels are not eligible for rural allowances.

to teachers for serving in rural areas would be directly provided to the school rather than the relocated teacher himself/herself. In the current system, male teachers, having more political connections, take better advantage of the loopholes in the rural allowance scheme and benefit from wage top-ups even when they do not actually take the rural posts. In addition to already existing difficulties they face in economic and social life, such inefficient practices put female teachers at a further disadvantage in re-deployment. The decree aims to support schools in rural and remote areas in hiring or contracting the most suitable male or female candidate if there is an apparent shortage. According to the decree, the redeployment would only take place if the schools announce a job opening. They are obliged to hire only those teachers who have specialized in the needed subject.

Salary payment is a major stress factor for teachers in rural areas. Salary payments are often done by the district salary cashier in the DEO office. The cashier withdraws the salary amount in cash from the Central Bank branch in the governorate (except in some districts, where salary payment is made by a Bank transfer to teachers through the post office). The cashier then distributes cash money to principals or to a representative teacher, designated by the principal. The agreement between schools and the district's cashier is that the latter can deduct YR 200²⁴ for cashing and bringing the salaries to schools. This agreement appears to be routinely abused however, as teachers reported that the cashier deducts as much as YR 400-600 from salaries. Moreover, anecdotal evidence suggests that the cashier abuses this agreement by delaying the cashing of salaries and deducting up to YR 2,500, sometimes with the teachers' consent as they become desperate for their incomes. Several teachers, in discussions with the consultants, indicated that they had never received the same salary amount for two consecutive months. Some also stated that additional fees were deducted from their salaries, either as government-approval donation or as a penalty for days of absence.

Raising further doubts about the process, teachers do not get a pay stub. Thus, they have no records showing the base salary and deductions. The GoY is addressing this issue through a World Bank-financed civil service project which focuses on a salary payment process for all public servants through post offices and biometric identification. Yet, it will take time to implement the project in all parts of the country. In the meantime, it would be important to provide a pay stub to teachers showing them the amount of deductions and their reasons.

Salary payment through post offices was recently introduced as a pilot.²⁵ The system of salary payment through post offices was launched in Yemen during 2005/06 school year. By July 2006, the system had been adopted in about 50 districts in 10 governorates, including Central MoE, Ibb, Taiz, Hadramout, Dhamar, Aden, Amran, Hodeidah, Hajjah, Mareb, and Ryma. The system is adopted with a request raised from the governorate offices. The criteria for districts and governorates to be included in the pilot are: (i) existence of post office in the district, (ii) access to electricity, and (iii) access to the Internet. In this pilot, the payroll is sent electronically to each post office and teachers can withdraw their salaries by presenting identification.

3.3 Teacher Attendance Issues

Existence of ghost teachers is a significant problem that affects the efficiency of public expenditures.²⁶ Teachers who appear on the payroll but who do not teach or undertake any

²⁴ Monthly average salary for teachers is approximately YR 30,000 which is USD 150.

²⁵ TAS Additional Notes on Report.

²⁶ The issue of ghost teachers in Yemen arises from the fact that there is a gap of approximately 30,000 teachers between Annual Educational Survey (AES) data and payroll data. According to the AES 2004/05 data, there

administrative tasks are referred as “ghost teachers.” Table 18 shows the numbers of school personnel on the Payroll and on the attendance sheet in the sampled schools. In these pay rolls, there were a total of 54 persons who did attend to sign the daily school logbook. The results indicate that on average there are about 3 ghost teachers in each school. This average ranges between 2 ghost teachers in school No 1, and 12 in school No 16. The problem of ghost teachers and its main causes were brought to national attention in a May 2006 news story (Box 3).

Table 18: Personnel on Payroll vs. Actual Teacher Attendance

School	Number of personnel		
	Pay Roll	Attend Sheet	Difference
1	88	86	2
2	*45	49	-4
3	110	107	3
4 Girls	16	21	-5
5	22	19	3
6	72	65	7
7	55	50	5
8 Girls	102	95	7
9	12	18	-6
10	Na	4	-4
11	33	31	2
12 Girls	79	86	-7
13	34	28	6
14	59	52	7
15 Boys	22	32	-10
16 Boys	56	44	12
Total			

Source: Hasan Ali Abdulmalik, p. 18.

*The school received 5 newly assigned teachers during 2005/06. They were not yet on the payroll.

Box 3: “Education Officials and Fraud Teachers” excerpt from Yemen Times (8 May 2006)

“Many teachers and educational officials confess that there are teachers who are excused from fulfilling their jobs with the help of corrupt officials in the Education Office. In order to be exempt from teaching, a teacher should give half or much of his salary to the head of the educational center in which he is assigned or to some other employees in the Education Office. Perhaps the main reason behind this unlawful act is teachers’ low salaries and absence of officials’ effective role. This phenomenon has negative consequences on the development of education in the country. For one thing, schools in remote areas still suffer from lack of teachers, which results in poor educational access and quality. Students themselves are by and large, a victim to teachers’ absenteeism. The result is: Our students finish their studies yet unable to read and write effectively” noted Hajji Hamoud from Bani Hishaish district in Sana’a.”

There is no functioning substitute teacher system. In practice, if a teacher does not show up in school, the principal sends a substitute teacher to cover for him/her. Nevertheless, those substitute teachers are usually assigned from the same school with teaching responsibilities of their own. Therefore, they perceive such standby assignments as an additional burden with no extra compensation. Moreover, the substitute teachers usually do not follow the official curriculum. They either teach their own subject regardless of the assigned subject of the day or most often refrain from teaching altogether. More importantly, it is a common practice by

were 171,101 teachers in public schools. However, for the same school year, the salary report of December 2004 shows there were 198,671 teachers (both data are excluding all administrative workers). *Source: TAS Additional Notes on Report.*

the teacher to give the task to a third party (i.e one of his/her relatives), who does not necessarily carry the qualifications required for teaching.

3.4 Student Attendance Issues

Female students face harsher punishment in schools than males for tardiness. A number of schools do not allow students to enter the classrooms late and make them wait outside as punishment for tardiness. It is often the case that male students, once they are not allowed in the classroom, leave the school building for the entire day and instead fill their time with recreational activities. On the other hand, girls who receive this punishment are socially restricted from leaving the school yard. Instead, they are made to clean classrooms and toilets as an alternative punishment. Such a discriminatory treatment is not only problematic from a human-rights perspective but also have a negative affect on already low rates of girls' participation in education.

In areas where girls' participation in education is low, double shift schooling might increase female enrollment rates. Although the practice of mixed schools works against girls' retention rates in the higher grades, some schools operate as mixed schools despite the fact that they are listed as girls' schools. Instead, utilizing double shift schooling (girls in the morning and boys in the afternoon) might increase girls' enrollment rate without increasing the need to build new schools for girls. This is especially important for higher grades (grade 6 and above) where families are reluctant to send their girls to schools with boys. In this sense, assigning more female teachers and introducing separate schooling are very important for increasing girls' enrollment rate. Since it is within the prerogative of school principals to decide the use of school buildings, instituting a double shift schooling policy in areas with high female drop-out rates might be a quick fix to the problem.

3.5 School Resource Allocations (Textbooks and Furniture)

The average estimated availability of textbooks does not match the actual needed quantities. All textbooks in the country are written and published by the MoE; and are provided to students free of charge. Textbooks for grades 1-3 are designed as disposable textbooks,²⁷ while textbooks for grades 4-12 are considered school's property, to be returned and reused at the end of the year. The general directorate of School Supplies and Equipments division of the MoE assigns field teams for each governorate. The MoE field teams visit the governorates in March to determine total needs of textbooks by level, grade, semester and title, based on the total numbers of students of the districts and governorates. To determine the additional number of textbooks needed for grades 4-12, the field team in coordination with the GEO officials (i) multiplies the number of students in each grade by the total set of textbooks for each grade, (ii) visits the governorate warehouse to take stock of available textbooks remaining from a previous year, and (iii) assumes that schools have been able to recollect at least 40 percent of the textbooks from the students, hence making them available for re-use in the following year.²⁸ Some governorates also implement a local variation of the policy, in which they supply books for higher grades on a "disposable" basis.²⁹ The return rate is

²⁷ Children in these grades are not required to return the books, in part because of the textbook methodology which encourages children to write in the books themselves and in part because of the extra tearing and improper use expected from children of this age.

²⁸ The estimated additional textbooks to be printed for each district and for the governorate are calculated as follows: Quantities to print = total needs – (books in stock + books in schools returned by students).

²⁹ While principals indicate that they excuse students who do not return books, students say they pay 100 Rials for every book they lose.

different from governorate to governorate. According to the Project Sector of the MoE, the estimated returned books for school year 2005/06 was zero percent in Mareb while it is 50 percent in Lahej.

Textbooks are not efficiently delivered to schools. School principals use some of the school fees to rent trucks to the district warehouse to collect their books. All officials and principals asserted that this mechanism of textbook distribution is not cost effective. One principal interviewed during the study asserted that they receive only 60 percent of their needed textbooks. When asked about frequency of delivery, principals indicated that they go to the district office/warehouse several times. They get the first delivery at the beginning of the school year, in early September, and get the last one before the first semester's final exams start, in early December. As a result, (i) some books do not arrive at all, (ii) some books arrive late, and (iii) some /books arrive in lower quantities than required.

There is no mechanism for redistributing the surplus of books from the previous years, which affects the consistency of learning materials. Some principals indicate that they recollect 80 to 90 percent of the previously distributed textbooks, and that 70-80 percent of the recollected textbooks is reusable. The rate of return tends to be high in urban areas (due to the availability of textbooks in the markets and of the wrapping facilities) and low in rural areas. The schools have books in stock from previous years and request for new additional textbooks. Principals distribute both newly-arrived books and old books, produced between 2001 and 2005, which may not contain the same information. In addition to the problems of inconsistency of information, the students who receive dated books may feel discriminated against compared to their classmates with new books.

School furniture arrives in low quality and quantity. The GEO sends furniture requests for the newly constructed schools and to compensate for shortage of furniture in the existing schools. The School Supplies department at the governorate level reconciles all requests into a national furniture plan and sends them to the MoE Project sector, specifying the quantities needed for each type of furniture (e.g., desks, offices, chairs, armchairs, tables, laboratories, and school radios). Furniture is distributed to schools in three stages: (i) from factory to governorate, (ii) from governorate to district, and (iii) from district to school. In practice, the quantity sent from central authorities to schools does not match the requested numbers. Furthermore, the quality of the available furniture is poor, thus they often are broken soon after arrival. The consultants found that in all the schools they visited there were hundreds of scrap metals kept on the roofs or in the stores or corners of the school yards. The shortage of furniture in classrooms particularly affect the attendance of girls in a mixed-school environment, as families become more reluctant to send girls to school if they have to sit on the floor among their male classmates. There is an urgent need not only for delivery of furniture but also for a mechanism for collecting and repairing the broken furniture.

Section 4: Need for Absenteeism Survey and Methodology

In most developing countries, inter-governmental budget allocations are used as indicators for understanding the quality and efficiency of public services, including basic education. It has become increasingly clear, however, that focusing only on recorded budget allocations does not fully capture the realities in the field especially in countries like Yemen that have poor governance and weak institutions. This section argues that understanding the possible wage/salary leakages was only possible through an absenteeism survey.

4.1 The Case for a “Non-Classical” PETS Study and Its Relevance to Yemen’s Basic Education System

Conducting a non-classical PETS study is crucial to shed light on wage/salary leakages in Yemen’s basic education system. The PETS is a quantitative exercise that aims to track the flow of public funds and other resources across various layers of the administrative and budgetary hierarchy. In this sense, a PETS survey is also useful to examine the compliance with financial management practices, incentives to provide better quality services, and student/teacher management issues.

A classical PETS study is not sufficient to capture all public expenditure leakages in basic education. In the context of Yemen, there seems to be three major areas of possible fiscal leakages: (i) fiscal leakages in the wage and salary expenditures (due to absenteeism and ghost workers), (ii) fiscal leakages in the procurement of supplies (e.g., textbooks, chalks, furniture, and other school equipment), and (iii) fiscal leakages in capital expenditures (construction of school buildings).

Schools in Yemen neither receive nor anticipate significant amounts of cash allocations from higher levels of government. Almost all of the allocations are delivered in-kind (e.g., textbooks, chalks, and equipment) and procured at the central level.³⁰ This particular nature of the resource allocation system calls for non-conventional methods of analysis in identifying fiscal leakages in the system. An absenteeism survey is necessary to detect wage/salary leakages. However, focusing on leakages in the only wage and salary expenditures doesn’t mean the leakages in the procurement system and capital expenditures are not important. On the contrary, there are systemic problems with the procurement system and efficiency of capital expenditures in Yemen. However, these problems are not unique to the education sector. They affect all sectors. Therefore they are beyond the scope of this study. They should be studied separately (may be addressed in the upcoming Public Expenditure Review).

The absenteeism survey requires direct physical verification of teachers’ presence through surprise visits to schools. Anecdotal evidence suggests that teacher absenteeism and the issue of ghost workers particularly stand out as the two most common types of fiscal leakages in Yemen’s education system. An absenteeism survey in this sense is particularly relevant for investigating the lack of an effectively functioning teacher deployment and substitute teacher system in the country.

³⁰ The two main non-wage expenditures are capital expenditures (construction) and procurement of supplies (e.g., textbooks, furniture, and computers). Capital expenditures are shared between central and local governments (see Figure 4) whereas nearly 100 percent of supply procurement is done at the central level.

4.2 Methodology of Absenteeism Survey

The survey was conducted in 4 different governorates. The survey covered 4 governorates, Hodeidah, Hadramout, Shabwah and Saada,^{31,32} and 240 schools³³—selected by *stratified multi-stage sampling* based on the MoE's 2004/05 Annual School Survey (School Census) data. There were 20 survey teams; each included 2 enumerators. The survey teams visited 240 schools only once in April 2006. The survey was completed in 12 days.

The survey collected data on absenteeism by paying unannounced visits to a nationally representative sample of schools. It then explored how absence correlates with a wide range of potential determinants of the quality of education at the individual, facility, and national levels. Additionally, the survey was particularly designed to expose the methods of keeping those ghost workers on payroll, such as how wage top-ups are abused in local deployment.

The questionnaire included questions about teacher characteristics, school characteristics, community characteristics, and some information on the students. There were three main parts in the questionnaire: (1) a questionnaire for the principal, (2) headcounts of teachers, and (3) a questionnaire for the teachers. The first part comprised questions about basic school information and teacher records. The teacher records were obtained from the official teacher attendance sheets, unless they were kept separately in the school. If the principal was not available, either the deputy principal or the most senior teacher was designated as the respondent. Headcounts of teachers and interviews with the teachers were undertaken by the second enumerator in the team, while the first enumerator was responsible for the questionnaire developed for the principal.

4.3 Background Information about Surveyed Governorates

The selection of governorates for the TAS represents the geographic and political diversity of Yemen. The sample included governorates from the coastal, mountainous, desert

³¹ We employed *purposive selection method* for the selection of governorates. Literacy rate was used as a proxy for the human development index. While there were some difficulties in the field in finding schools or reaching remote areas, the field work was completed in a timely manner. However, due to defects in the original data used for sampling and because of tribal disputes in certain areas in Saada, a few schools could not be visited. To replace those schools, alternative schools of similar characteristics were selected in the same district.

Hadramout: No replacement of schools

Hodeidah: 1 school was replaced as it has been closed for more than 2 years

Shabwah: 2 schools were replaced as they actually did not exist; 2 questionnaires were filled for one of the schools as that school was using double-shift and had assigned two different names with two distinct principals each shift.

Saada: 3 schools were replaced due to security reasons; 1 school was replaced as it was a secondary school.

A total of 241 schools were sampled, and the total number of teachers in these schools was 2,928. The number of interviewed teachers was 1,048.

³² In each governorate, 5 districts were selected randomly. Two criteria were applied for the selection of districts: (1) number of basic schools in the district must exceed 20 in order to select 12 schools in the district, (2) the sum of schools in 5 districts should have enough sample schools for each characteristic—urban, rural, boys, girls, and mixed schools. Based on these criteria, 5 districts were selected randomly by using the MS-EXCEL random number generator.

³³ The selection of schools was done in three steps: (1) categorizing schools in a matrix of urban-rural and boys-girls-mixed schools; (2) making proportional adjustments according to each category; and (3) selecting schools from each category by applying *systematic random sampling method*, in which the assigned number of schools is selected from the list of schools in an interval calculated from total number of schools divided by the assigned number of schools. In order to focus only on basic education, we excluded basic-secondary schools from our sample.

and transitory (mountainous to desert) regions of Yemen as well as from the former North and South: Hadramout, Hodeidah, Shabwah and Saadah.

- *Hadramout* is located in the eastern part of the country. It is a former Southern governorate with three geographically distinct regions: coastal, desert, and valley regions. There are 30 administrative districts in Hadramout. In the MoE classification of administrative capacity, Hadramout scores high. Since the sample was selected by multi-stratification, districts with less than 20 schools were excluded from the selection process. As a result, the northern desert districts of Hadramout, which tend to have less than 10 schools in a vast area, are not included in the selection.
- *Hodeidah* is a governorate located in the western part of Yemen. The region has both high elevation mountainous areas as well as costal areas. The coastal areas are called Tihama areas, and often are considered as one of the poorest regions in the entire nation. Hodeidah's population is around 2 million, which is slightly more than 10 percent of the nation's entire population. In terms of administrative capacity, the governorate is often considered average. Yet, the poverty level is quite high and there are significant disparities across the region in terms of household income.
- *Shabwah* is a former South governorate, which geographically serves as a transition from mountain to desert. The governorate has 17 administrative districts, yet the population size is the smallest among the sampled governorates. The governorate continues to have tribal as well as security problems. It has one of the largest gender gaps in enrollment rates, and its administrative capacity is often ranked in the low end.
- *Saadah* is a former Northern governorate with highly mountainous terrain. There are still ongoing tribal disputes, which indeed affect service delivery. Many schools are still occupied by the tribal militias and this situation resulted in the halt of any teaching in those schools. Furthermore, enumerators could not visit several schools due to security reasons. The enrollment rate is the second lowest in the country, and there is a very high gender disparity in the enrollment rates.

Table 19 provides basic figures for socioeconomic and educational characteristics of the selected governorates in comparison with national figures.

Table 19: Comparison in General Characteristics of Survey Governorates					
	Hadramout	Hodeidah	Shabwah	Saadah	National
Number of districts	30	26	17	15	330
Total Population	1,028,548	2,157,536	470,410	695,033	19,682,162
Population 6-14	252,008	538,949	135,993	197,816	5,330,627
Number of basic schools	560	1036	350	537	11049
Number of basic and secondary schools	16	179	48	97	3058
Enrollment					
Total	203,404	334,966	97,006	103,673	4,069,240
Boys	120,428	203,002	63,995	72,831	2,450,811
Girls	82,976	131,964	33,011	30,842	1,618,429
Basic GER (%)					
Total	81	62	71	52	76
Boys	92	72	89	71	88
Girls	68	51	52	32	62
Number of Basic Teachers in Basic Only Schools					
Male	8,265	8,824	3,570	2,974	96,556
Female	2,471	2,221	396	338	25,294
Student Teacher Ratio in Basic Only Schools	18	21	19	22	22
Source: MoE Annual School Survey 2004/05 raw data, CSO Population Census 2004					

The public expenditure patterns in surveyed governorates show that allowances are an important source of income for teachers. Table 20 provides the education expenditure in the selected governorates for 2004. In all governorates, the current expenditure comprises 90 percent of the total expenditure, and more than 85 percent of recurrent spending is allocated for wages and salaries. Shabwah and Saadah have more rural areas than Hadramout and Hodeidah. Therefore, in total expenditures, the rural allowance's share in the former two governorates is higher than the latter two governorates. In Shabwah and Saada, the share of rural allowance in total education expenditure is 19.2 percent and 17.9 percent respectively, compared to 13.3 percent in Hodeidah and 10.5 percent and Hadramout.

Table 20: Education Expenditure Items in the Selected Governorates, 2004 (in million YR)

Education Expenditure 2004 in Surveyed Governorates (GEO Expenditure)										Million YR
	Hadramout		Hodeidah		Shabwah		Saada		Gov. total	
Total Expenditure	6,399		8,398		3,199		2,568		101,408	
Current Expenditure	5,809	90.8%	8,012	95.4%	2,976	93.0%	2,320	90.3%	94,795	93.5%
Capital Expenditures	590	9.2%	385	4.6%	223	7.0%	249	9.7%	6,614	6.5%
Share of Recurrent Expenditure										
Wage and Salaries	4,983	85.8%	7,022	87.6%	2,618	88.0%	2,045	88.2%	82,957	87.5%
Goods and Services	169	2.9%	74	0.9%	16	0.6%	9	0.4%	1,051	1.1%
Maintenance	12	0.2%	9	0.1%	6	0.2%	6	0.2%	133	0.1%
Current subsidies and transfer	646	11.1%	907	11.3%	336	11.3%	260	11.2%	10,654	11.2%
Share of Wage and Salaries										
Basic Salaries	2,018	40.5%	2,766	39.4%	940	35.9%	731	35.8%	32,171	38.8%
Temporary wages and Salaries	9.4	0.2%	42.9	0.6%	30.9	1.2%	40.4	2.0%	844	1.0%
Overtime and Bonuses	16.0	0.3%	0.5	0.0%	0.2	0.0%	1.5	0.1%	64.6	0.1%
Allowances	2,939	59.0%	4,214	60.0%	1,647	62.9%	1,272	62.2%	49,878	60.1%
Share of Allowances										
Representation	12.1	0.4%	14.6	0.3%	2.8	0.2%	4.6	0.4%	181	0.4%
Appearance	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1.8	0.0%
Graduation	62	2.1%	110	2.6%	24	1.5%	29	2.3%	1,242	2.5%
Cost of living	343	11.7%	504	12.0%	169	10.3%	138	10.8%	5,866	11.8%
Rural incentive	392	13.3%	443	10.5%	316	19.2%	227	17.9%	6,479	13.0%
Accommodation	0.0	0.0%	0.2	0.0%	0.1	0.0%	0.0	0.0%	1.3	0.0%
Transportation	172	5.9%	239	5.7%	79	4.8%	65	5.1%	2,783	5.6%
Others	1,957	66.6%	2,902	68.9%	1,055	64.1%	808	63.6%	33,323	66.8%

Source: MoF, Final Account 2004

* Gov. total concerns local budget only -excludes central budget

* Education budget includes basic, secondary, early childhood and literacy; does not include TEVT, higher education.

Section 5: Main Findings of the Absenteeism Survey

This section discusses the findings of the absenteeism survey on Yemen's basic education system. The survey concludes that absenteeism is a significant source of fiscal leakage in the country's education system. Absenteeism is influenced by multiple factors, including personal ties between principals and teachers, size and geographical location of the school, presence of local accountability mechanisms (i.e. Fathers and Mothers Councils, or FMC), teachers' places of residence, and their specific educational qualifications and assigned teaching duties. While the survey revealed differences among the selected governorates, a thorough examination of other issues such as the impact of gender on the absenteeism rate and the urban/rural divide would call for a more detailed study.

An important caveat in reading this section of the report is that the survey captures both "absence rate" and "absenteeism rate." These two terms have different meanings. Absence rate is the percentage of teachers who are absent on the day of visit regardless of their official or unofficial excuses. Absences are defined as instances where teachers are not in the school premises regardless of the reason (e.g., training, election duty, and annual/sick leave). On the other hand, absenteeism rate is defined as the percentage of teachers who are absent on the day of visit without prior approval of leave. Absenteeism is an unscheduled absence. Therefore "absenteeism rate" is a subset of "absence rate." In the case of authorized leave, whether it is annual or sick leave or any other kind of leave, we requested documentation for prior approval. In cases where prior approval for leave could not be documented, we included them in the absenteeism rate. Temporary assignments to a different location for official reasons (e.g., training or election duty) were not included in the absenteeism rate.

5.1 General Findings

Teacher Absence Rate is 19 percent of total registered teachers (see Table 21). Only 81 percent of teachers in our sample were physically present in the classroom when enumerators visited schools.³⁴ When compared to other countries, teacher absence rate of 19 percent in Yemen is fairly significant compared to several other countries with similar social and economic indicators.³⁵

There is a discrepancy between actual absence rate and official absence rate. The official absence rate for the sampled schools on the day of visit was 16 percent whereas the actual absence rate was 19 percent. Among the sample size of 2,933 teachers, 2,451 (84 percent) of them signed the attendance sheet; however, only 2,364 (81 percent) of them were physically present in the school premises. Meanwhile, 569 teachers, although they might be in school, were absent from the classroom during the time of scheduled session, depriving their students of access to education and learning.

The absenteeism rate is 14.5 percent. Out of 569 absences, 424 of them were absent without prior approval of leave. These cases were considered as absenteeism (424/2,933), which indicates that 75 percent (424/569) of absence was due to absenteeism.

There are some variations in absenteeism rates among surveyed governorates. The determinants of absenteeism are analyzed for each governorate by using a binary probit model

³⁴ For our study, the sample size of teachers is 2,933 of which 2,364 teachers were physically present in the classroom.

³⁵ The World Bank studies report absence rate in primary education as 11 percent in Peru, 16 percent in Bangladesh, 25 percent in India and 27 percent in Uganda.

(see Annex B). This model uses “absenteeism of the teacher” as the dependent variable. The independent variables include individual characteristics of teachers such as gender, place of living, qualification, position, and such school characteristics as location, shift of the school, school size, and the existence of FMC. As Table 21 shows, the absenteeism rates of Hodeidah (21 percent) and Shabwah (17 percent) were higher than Hadramout (10 percent) and Saada (14 percent). According to the probit regression results, the likelihood of a teacher being absent in Hodeidah is 13 percent higher than a teacher in Saada.

Some independent variables have an opposite impact on the absenteeism rate depending on the governorate (see Annex B). Closeness to the nearest paved road increases the likelihood of absenteeism in Shabwah, but decreases the likelihood of absenteeism in Saada; whereas salary payment punctuality increases the probability of absenteeism in Hodeidah, but decreases this probability in Hadramout. These results signify that governorates have specific issues related to teacher absenteeism. For example, in the case of Shabwah, teachers with poor physical access to the school might choose to stay over night in the schools whereas teachers with easy access tend to live in the surrounding villages. When that is the case, closeness to the nearest paved road can actually increase absenteeism. Similarly, punctual salary payment can be an incentive and further motivation for teachers in Hadramout and decrease the absenteeism rate whereas it could serve as an indication of job security and lead to “moral hazard” in Hodeidah, thus increase absenteeism rate. There is a need for more detailed information in order to better analyze these trends.

There were no clear differences in absenteeism rates between urban and rural schools (see Table 22). Documenting the differences in absenteeism between urban and rural schools was a challenging task. In fact, in our survey, there was no clear difference between the urban and rural schools in terms of absenteeism rates. Yet, this does not mean that the determinants for these rates are necessarily the same in urban and rural areas. As the urban schools have abundant registered teachers, it is easier for them to be absent and find substitute teachers to fulfill their teaching tasks. In this sense, the availability of the substitute teachers may enable principals to be more lenient towards granting leaves. On the other hand, the increase in absenteeism in rural areas could be related to weak supervision in small rural schools and close personal ties between the principals and teachers (thus the higher tendency by the principals to overlook the teachers’ unprofessional behaviors).

Survey results do not detect different trends of absenteeism between male and female teachers (See Table 22). Based on other country examples, men, who usually have more freedom of movement and more personal connections at work place, are assumed to have higher absenteeism. Yet, the survey results in selected governorates in Yemen did not concur with this assumption. According to the survey, absenteeism rates are almost the same for male (14 percent) and female (15 percent) teachers. This finding also holds true when the analysis is limited to the regular teachers. Yet, as Table 21 reveals, further deviating from the general assumption, the female absence rate is as high as 26 percent, compared to 18 percent for males. The slightly higher rate of female teacher absenteeism is also suggested by binary probit estimations in Annex B. This could possibly be influenced by restrictions in the freedom of movement for female teachers and other familial situations (i.e., female teachers follow their husbands or male relatives when they relocate).

22 percent of the absence cases were related to official duties (Table 22). Official duties include both teaching (mostly training) and non-teaching (mostly election duty) related cases. The survey team acknowledges the fact that 2006 was an election year for Yemen, and many

teachers were supposed to take part in the voter registration activities. Therefore, the absence due to election-related duties was unusually high given the timing of the survey. Nevertheless, the high absence rate due to election-related reasons is still a sign of weak coordination by the school management. Voter registration campaigns could have been easily scheduled for after school hours and the local communities could have shared some of the teachers' election-related responsibilities. In short, there were no compelling reasons to cancel classes due to voter registration campaigns.

Teacher training during the school year negatively affects students' learning. Most common official excuse used for absence was 'the need to attend teacher training'. For instance, at the time of the survey in Shabwah, almost 10 percent of teachers (76 out of 821) was absent due to official duties; and among them, 6 percent (48) was absent due to training. Considering the fact that the survey was conducted in April, one month before the final examinations; the students were deprived of their teachers at a time when they needed them the most to prepare for their exams.

Authorized leaves are not always certified by official documentation (See Table 22). Among 81 reported cases for authorized leaves, only 19 were actually certified with official documentation while 62 had no records (either principals admitted there was no official documentation or they said they had misplaced the record). In such an environment where official documentation is not required for authorized leaves, principals can easily manipulate the absence record of teachers and claim authorized absence. Therefore, the system of leave authorization must be more strictly established.

37 percent of absence is due to contingency or unauthorized leaves. This large portion of absence is acknowledged by the principals but is not authorized in advance. The principals contended that the reasons for these absences include sick leaves, unauthorized leaves for personal reasons, or in some cases, leaves for unknown reasons. Among the 211 unauthorized absence cases in the survey, 75 (36 percent) were sick leaves, 40 (19 percent) were personal reasons, and 54 (26 percent) were unknown reasons. The share of sick leaves against total absence is 13 percent, which is in line with the international average of 10 percent³⁶. Yet, absences due to unknown reasons were recorded as high as 26 percent, indicating that the principals were granting unauthorized leaves even when teachers did not give any clear excuses for the absence. This might be an indication of lack of effective supervision or authority on the part of principals and the need for a mechanism to not only monitor teachers but also principals.

27 percent of overall absence is unacknowledged by the school authorities (see Table 22). Making things worse, 27 percent (=151/569) of absence is not even acknowledged by principals—they neither appear in the official records (attendance sheets) nor are they reported to the principals. This portion of teacher absenteeism is calculated by subtracting the number of reported cases of absences from the total number of physically absent teachers. The reasons for such absences may be that, in the absence of a mechanism to monitor teachers' behaviors, teachers do not come to school at all, leave the premises temporarily, or arrive late.

³⁶ Nazmul Chaudry et al. "Missing in Action: Teacher and Health Worker Absence in Developing Countries." *Journal of Economic Perspectives* May 2005.

Table 21: Patterns of Absence

	Registered	Signed the Attendance Sheet	Physically Present	Absent	% signed	% present	Absence Rate (%)
Total	2,933	2,451	2,364	569	84%	81%	19%
By governorate							
Hodeidah	590	466	451	139	79%	76%	24%
Hadramout	1,138	1,033	998	140	91%	88%	12%
Shabwah	821	660	603	218	80%	73%	27%
Saada	384	292	312	72	76%	81%	19%
By Urban-rural status							
Urban	755	637	610	145	84%	81%	19%
Rural	2,178	1,814	1,754	424	83%	81%	19%
By gender							
Male	2,572	2,191	2,101	471	85%	82%	18%
Female	356	260	263	93	73%	74%	26%
Unknown	5	0	0	5	-	-	-

* Number of signed attendance sheet does not include school that did not have attendance sheet (40 teachers)

Table 22: Breakdown of Absence and Absenteeism Rate

	Official duties (a)	Authorized (w/ doc) (b)	Authorized (w/o doc) (c)	Unauthorized (acknowledged) (d)	Unauthorized (unacknowledged) (e)	Unauthorized leave (c+d+e)	Absenteeism Rate
	126	19	62	211	151	424	14%
By governorate							
Hodeidah	13	1	13	73	39	125	21%
Hadramout	19	10	19	41	51	111	10%
Shabwah	76	6	22	67	47	136	17%
Saada	18	2	8	30	14	52	14%
By Urban-rural							
Urban	31	6	10	52	46	108	14%
Rural	95	13	52	159	105	316	15%
By gender							
Male	90	14	56	185	126	367	14%
Female	36	5	6	26	20	52	15%
Unknown	-	-	-	5	5	5	-

5.2 School Characteristics and Absenteeism

Schools with FMCs, or Parent-Teacher Associations, tend to have lower absenteeism rates (see Table 23). Among 241 schools visited in 4 governorates, 153 schools had an FMC, 78 schools did not have one, and 10 schools did not respond. The former Southern governorates Hadramout and Shabwah have a higher percentage of schools with an FMC than the former Northern governorates Hodeidah and Saada. In general, the absenteeism rate for schools with FMCs is lower than the schools without FMCs. In schools with an FMC, the average absenteeism rate was 14 percent whereas the average rate in schools without an FMC was 19 percent. This result highlights the importance of local participation/ownership in basic

education as a way to increase accountability of the teachers and principals to parents and other members of the community. The importance of an FMC in reducing absenteeism rates is also shown in the probit regression results; if the school has an FMC, the probability of a teacher's absenteeism on average is 5 percent less compared to teachers in schools without an FMC.

Table 23: Presence of FMCs and Absence Rate

	Hodeidah	Hadramout	Shabwah	Saada	Total
Average Absenteeism Rate					
With FMC	17%	10%	18%	10%	14%
Without FMC	23%	24%	22%	13%	19%
Presence of FMCs					
Number of schools with FMC	22	59	49	23	153
Number of schools without FMC	33	1	10	34	78
No Answer	5	0	2	3	10
Total sampled	60	60	61	60	241

No answer includes 5 closed schools whose absence rate is 100 percent. Absenteeism rate for no answer schools is not presented.

There is no clear relationship between absenteeism rates and timely payment of salaries (see Table 24). Survey teams interviewed 1,048 teachers in 241 schools about salary payments. More than 60 percent of the respondent teachers believe that their salaries are paid in a timely manner. Teachers in 153 schools reported that they received their salaries on time always or most of the time. Most of the teachers who responded favorably about the salary payments were stationed in Hadramout whereas teachers in other governorates, especially in Hodeidah, reported that their salary payments were never on time.³⁷ During the interviews, only 5 percent of the teachers in Hadramout mentioned untimely payment of salaries as a problem; however, this ratio rose to 19 percent in Shabwah, 28 percent in Hodeidah, and 36 percent in Saada. Yet, the survey results also indicate that there is no clear relationship between absenteeism and timely payment of salaries. The absenteeism rate is still the highest (17 percent) in the 110 schools that reported to receive salary payments on time. On the other hand, the average absenteeism rate is the lowest (12 percent) in the 29 schools that reported to receive salary payments occasionally on time.

Table 24: Punctual Salary Delivery and Absence Rate

	Hodeidah	Hadramout	Shabwah	Saada	Total
Average Absenteeism Rate					
Always	23%	10%	22%	17%	17%
Most of the time	26%	10%	18%	14%	14%
Sometimes	6%	18%	20%	4%	12%
Never	20%	33%	11%	11%	16%
Response Frequency					
Always	30	37	23	20	110
Most of the time	4	18	11	10	43
Sometimes	2	2	12	13	29
Never	22	2	13	14	51
No response	2	1	2	3	8
Total	60	60	61	60	241

³⁷ Most of the schools in Hadramout receive salary payment through post offices. The Taiz governorate also uses post offices for salary payment.

The size of the school is inversely correlated with the absenteeism rate (see Table 25). The sample schools were analyzed in four categories. Schools with less than 5 teachers were coded as small and schools with more than 21 teachers were coded as large. On average, small schools had a higher rate of absenteeism than the larger ones. Although the trend was not as clear at the governorate level, on average, the absenteeism rate decreases as the size of the school increases.³⁸

Table 25: Average Absenteeism Rate by School Size

	Hodeidah	Hadramout	Shabwah	Saada	Total
Average Absenteeism Rate					
1. Very small (1 to 5 teachers)	28%	5%	22%	20%	20%
2. Small (6 to 10 teachers)	24%	30%	17%	14%	19%
3. Medium (11 to 20 teachers)	17%	10%	22%	8%	16%
4. Large (21+ teachers)	25%	8%	12%	14%	12%
Number of schools sampled					
1. Very small (1 to 5 teachers)	23	13	11	29	76
2. Small (6 to 10 teachers)	17	7	20	22	66
3. Medium (11 to 20 teachers)	14	15	19	8	56
4. Large (21+ teachers)	6	25	11	1	43
Total	60	60	61	60	241

Teachers in small schools work more hours than teachers in large schools (see Table 26). Teachers in large schools take more breaks than teachers in small schools, and the latter are often teaching multi-subjects, and hence, working more hours. The number of teachers who were out of class on a scheduled break at the time of the visit is 3 percent in very small schools, compared to 5 percent in small schools; the number is 13 percent in medium schools and 22 percent in large schools. Moreover, 6 percent of teachers in large schools were not teaching during teaching hours, compared to 1 percent in small schools.³⁹ This pattern could be another indication of abundance of teachers in large schools with lower share of responsibility, as mentioned earlier in the section. In order to achieve efficiency in teacher deployment, working hours must be reconsidered and the number of scheduled breaks should be reviewed.

Table 26: Teachers' Activity Pattern by School Size

	Very small	Small	Medium	Large	Total
In the classroom , teaching	48%	46%	45%	38%	42%
In the classroom , not teaching	1%	2%	2%	4%	3%
Out of class on a scheduled break	3%	5%	13%	22%	15%
Out of class but in school / idle	1%	4%	4%	6%	5%
Doing administrative / paper work	9%	11%	9%	9%	9%
Can't find the teacher / absent	24%	25%	19%	16%	19%
Accompanying the surveyor	14%	7%	9%	4%	6%
Total	100%	100%	100%	100%	100%
Total number of teachers	225	500	820	1383	2928

*Size of school is classified by number of teachers: Very small (1-5), Small (6-10), Medium (11-20), Large (21+)

³⁸ Larger schools, especially in urban areas, have relatively better access to substitute teachers. Smaller schools usually do not have the same opportunity; therefore absenteeism in small-sized schools directly leads to deprivation of students' learning opportunities.

³⁹ The official teaching hour is 28 hours a week for grades 1-6 teachers and 24 hours for grades 7-9 teachers.

Average number of subjects taught by a teacher increases as the size of school decreases (see Table 27). In very small schools (schools with less than 5 teachers), 83 percent of teachers are assigned to teach multiple subjects whereas in large schools (schools with more than 20 teachers) this rate goes down to 41 percent. The average number of subjects taught by a teacher is 4.2 for very small schools and 1.7 for large schools.⁴⁰ Although multi-subject teaching is used as a way to maximize teaching hours, it might have negative impact on the quality of education as well as the morale of the teachers. It can be more easily applied to teaching similar subjects such as Math and Science. Yet, in cases where the same teacher is obliged to teach all subjects that are not correlated to each other, the multi-subject teaching can become counterproductive for both students and teachers.

Table 27: Number of Subjects Taught Per Teacher, by Size of School

Number of subjects	Very small	Small	Medium	Large	Total
0 or 1	17%	24%	42%	59%	39%
multiple	83%	76%	58%	41%	61%
Total	100%	100%	100%	100%	100%
Number of teachers	105	274	306	251	936
Average number of subjects	4.2	3.3	2.2	1.7	2.6

*Size of school is classified by number of teachers: Very small (1-5), Small (6-10), Medium (11-20), Large (21+).

Sample includes only permanent teachers who are interviewed individually. Principals, deputies, non-permanent teachers are excluded.

5.3 Individual Characteristics of Teachers and Absenteeism

Teachers with higher educational qualifications have higher absenteeism rates (see Table 28). The teacher absenteeism rate is highest among the teachers with university degrees. The absenteeism rate among the university degree holders was recorded as 16 percent whereas the rate for secondary school diploma holders was recorded as 12 percent.⁴¹ Similarly, in the probit regression results, we can observe that the probability of the absenteeism for a university graduate is 6 percent higher than for a secondary school graduate.

There are no significant differences between the overall absenteeism rates of permanent staff; yet, clear differences exist across governorates (see Table 29). The total average absenteeism rates of principal, deputy principal, and permanent teachers are within the same range (12, 13, and 13 percent). Yet, the rates show significant variations across governorates. For example, the highest absenteeism rate for deputy principals is detected in Hodeidah with 27 percent, compared to Hadramout with 8 percent, Shadwah with 16 percent, and Saadah with 0 percent. Meanwhile, absenteeism among “other workers”⁴² is extremely high in all governorates, except for Saada.

⁴⁰ It should be noted that the sampled teachers include not only grades 4-9 subject teachers but also grades 1-3 classroom teachers due to the overall reluctance of teachers to work on Thursday; therefore, very small schools where upper grades are not always offered have a potential bias of representing more classroom teachers.

⁴¹ Secondary and post-secondary diploma holders are mostly graduates of TTIs.

⁴² Other workers category includes secretaries, floor supervisors, guards, and store keepers. They are mostly full-time government workers.

Table 28: Absenteeism Rate by Qualification of Teachers					
	Hodeidah	Hadramout	Shabwah	Saada	Total
Average Absenteeism Rate					
University +	21%	12%	23%	13%	16%
Post secondary	24%	8%	13%	19%	13%
Secondary Dip	21%	8%	17%	8%	15%
Secondary	33%	10%	12%	11%	12%
Preparatory	-	14%	-	0%	13%
R&W	-	0%	-	0%	0%
Not stated	17%	11%	35%	20%	16%
<i>Total</i>	<i>21%</i>	<i>10%</i>	<i>17%</i>	<i>13%</i>	<i>14%</i>
Number of teachers (total sample)					
University +	124	282	84	96	586
Post secondary	72	317	249	99	737
Secondary Dip	271	252	249	118	890
Secondary	12	49	182	55	298
Preparatory	0	29	0	2	31
R&W	0	1	0	1	2
Not stated	109	208	57	10	384
<i>Total</i>	<i>588</i>	<i>1,138</i>	<i>821</i>	<i>381</i>	<i>2,928</i>

Table 29: Absenteeism Rate by Position of Teachers					
	Hodeidah	Hadramout	Shabwah	Saada	Total
Average Absenteeism Rate					
Principal	14%	7%	17%	8%	12%
Deputy Principal	27%	8%	16%	0%	13%
Permanent Teachers	20%	9%	13%	15%	13%
Contract Teachers	30%	3%	14%	9%	11%
Other Teachers	0%	9%	10%	0%	9%
Other workers	47%	31%	46%	0%	40%
Unknown	-	-	-	-	-
<i>Total</i>	<i>21%</i>	<i>10%</i>	<i>17%</i>	<i>14%</i>	<i>14%</i>
Number of teachers (total sample)					
Principal	57	56	58	50	221
Deputy Principal	22	52	37	9	120
Permanent Teachers	478	923	594	286	2,281
Contract Teachers	10	33	51	34	128
Other Teachers	2	22	10	1	35
Other workers	19	52	70	1	142
Unknown	2	0	1	3	6
<i>Total</i>	<i>590</i>	<i>1138</i>	<i>821</i>	<i>384</i>	<i>2933</i>
Other teachers include librarian, laboratory workers, etc.					
Other workers include secretary, floor supervisor, guard, store keeper, etc.					

Absenteeism is higher among those who live farther away from the school (Table 31). For teachers living outside the district of where the school is located (in the same governorate or in another governorate) the absenteeism rate was as high as 30 percent whereas the rate was 14 percent for those who live in the same village and 13 percent for those who live in the same district. This argument is supported by the regression results in Annex B, which show that the likelihood of absenteeism for a teacher who lives far away from school is 15 percent higher than a teacher who lives close to school.

Absenteeism rate is high on Thursdays (see Table 30). Absenteeism on Thursdays in the surveyed schools turned out slightly higher than the other days of the week. Anecdotal evidence suggests that teachers usually leave their work place on Thursdays to travel to their home town; therefore, absenteeism is higher on Thursdays than any other day of the week.⁴³

Table 30: Day of Visit and Absence Rate

	Hodeidah	Hadramout	Shabwah	Saada	Total
Average Absenteeism Rate					
Saturday	19%	8%	19%	13%	15%
Sunday	25%	11%	22%	7%	17%
Monday	28%	3%	18%	23%	19%
Tuesday	16%	9%	19%	23%	16%
Wednesday	26%	11%	21%	10%	18%
Thursday	29%	29%	11%	19%	21%
Number of visited schools					
Saturday	9	11	12	14	46
Sunday	11	12	14	10	47
Monday	13	10	12	13	48
Tuesday	10	11	8	9	38
Wednesday	11	10	8	6	35
Thursday	6	6	7	8	27
Total sampled	60	60	61	60	241

Place of residence has more bearing on absenteeism than place of birth. Table 31, which tabulates the absenteeism rate for teachers by places of birth and residence, shows that place of living has a stronger correlation with absenteeism rate than place of birth. For example, for those who were born in the same village that the school is located but currently live further away, the absenteeism rate is 50 percent. However, this rate goes down to 30 percent if they live in the same district. Furthermore, if they live in the same village, absenteeism rate goes further down to 13 percent. A similar pattern can be observed for those teachers who were born further away from their place of work. For these teachers, the absenteeism rate is 30 percent if they also live away from their place of work. However, this rate goes down to 18 percent if they live in the same district and to 12 percent if they live in the same village.

⁴³ It is important to note that the survey could not be carried out as it was designed. The survey design had mandated the survey teams to cover equal number of schools in each day of the week. As presented in Table 30, the survey teams did not visit the same number of school on Thursdays as they did on Saturdays, Sundays or Mondays. The survey design mandated each of the 20 survey teams to visit 1 school a day for 12 days (Saturday-Thursday for 2 weeks). If the survey was conducted as designed, the number of sampled school would be 40 schools per day. However, the sample size for Thursday is only 27, which is much lower than for Saturday (46), Sunday (47), or Monday (48). This suggests a cultural trend regarding working on Thursdays. Even our field enumerators, who are a member a local consultancy firm contracted for this assignment, did not want to work as much on Thursdays.

Table 31: Absenteeism by Place of Residence and Origin

Place of origin	Place of residence			
	same village	same district	further	Total
<i>Absenteeism Rate</i>				
same village	13%	30%	50%	14%
same district	18%	12%	14%	13%
Further	12%	18%	30%	18%
<i>Total</i>	<i>14%</i>	<i>13%</i>	<i>30%</i>	<i>14%</i>
<i>Number of teachers</i>				
same village	1,365	20	6	1391
same district	125	911	7	1043
Further	241	113	107	461
<i>Total</i>	<i>1731</i>	<i>1044</i>	<i>120</i>	<i>2895</i>

5.4 Issue of Ghost Teachers

As noted in Section 3, the anecdotal evidence based on a consultant study suggests the existence of ghost teacher to be a significant problem that affects the efficiency of public expenditures. In order to obtain further information on the magnitude of this challenge, the task team looked into the data showing the number of teachers in Annual Education Survey (AES), Payroll (PR), and Teachers' registration records, obtained from the TAS. AES data are taken from school year 2004/05, as the data for 2005/06 was not available, while payroll and registration records are based on the school year 2005/06. There is a gap of approximately 30,000 teachers between AES data and payroll data.⁴⁴

It is hard to tell the magnitude of the ghost teacher issue due to lack of reliable data. The PETS team could only obtain PR data for 169 schools out of 240 that they visited. Among the data corresponding to 169 schools, TAS and AES records match only in 59 schools whereas TAS and PR records match only in 28 schools, and AES and PR records match in 32 schools. Accordingly, only 12 percent of schools seem to have the accurate data (28 schools among the sampled 240 schools) versus 59 percent of schools with mismatching data; 29 percent have no corresponding payroll data. The average gap in number of teachers between TAS and PR is -1.0, which means PR data has on average 1.0 teacher more than the number of teachers recorded by TAS (see Table 32).

Ghost teacher issue could not be resolved unless payroll is properly prepared for each school. The large gap in number of teachers in PR, AES, and TAS records shows that teacher transfers between schools are not accurately reflected in schools' payrolls. The gap between TAS and PR was recorded as the largest. This problem arises from the fact that many teachers are registered under DEOs or under their former schools, even when they have started teaching at another school. Newly established schools lack the mechanism for salary delivery; therefore, it is convenient for cashiers to deliver salaries to already existing schools. This is especially the case of teachers in newly-established small schools. Sometimes, it is completely neglected to record a new school in the payroll because it is much easier to use the established channel to deliver salary. This practice may function well in terms of ensuring teachers to receive their salaries, yet it creates obstacles in teacher allocation and in reflecting an accurate number of teachers in each school. In order to find the ghost teacher, what is

⁴⁴ According to the AES 2004/05 data, there are 171,101 teachers in public schools. However, for the same school year, the salary report of December 2004 shows there are 198,671 teachers (both data exclude all administrative workers).

needed is to have a properly recorded payroll for each school. Without payroll registration of teachers in each school, we cannot find ghost teachers.

Table 32: Difference in Number of Teachers by Dataset

	Difference between		
	TAS - PR	TAS - AES	AES - PR
Total gap	-162	-105	-57
Average gap	-1.0	-0.6	-0.3
St. Deviation	9.7	5.8	8.1
Number of schools	169	169	169
# Schools w/o gap	28	59	32
# Schools w/ gap	141	110	137

Section 6: Summary and Conclusions

This PEMT study was carried out to serve three main purposes with respect to Yemen's basic education sector. First, it explores how public funds are used at the governorate and district levels to deliver educational services. Second, it examines how actual practices in selected governorates deviate from formal regulations with respect to teacher deployment and wage payments and resource allocations to frontline service delivery units. Third, it offers findings on leakages in wage and salary expenditures through an absenteeism survey, which provides direct physical verification of teachers' presence through surprise visits to selected schools.

The study has employed both qualitative and quantitative methods to provide a set of recommendations for removing bottlenecks and strengthening fiduciary accountability to improve service delivery quality in basic education. This final section provides concluding discussions and policy recommendations under three sub-headings, (i) Budget Preparation and Execution, (ii) Teacher and Student Management, and (iii) Salary Delivery and School Resource Allocation. This section argues that the teacher deployment system overall must be strengthened and better monitored by taking into account existing variations across governorates and addressing the gap between formal regulations and actual practices.

The main issues and policy recommendations are summarized in a matrix accompanying this section (see Table 33 at the end of this section).

6.1 Budget Preparation, Execution and Salary Payment⁴⁵

Monthly and year-to date figures should be better aligned with budgeted figures. A main deficiency in the budget preparation process is that that monthly and year-to date figures are not compared with budgeted figures, which results in a mismatch between the two. The authorities should look into the budgeted execution performance during the fiscal year, rather than only at the end in order to eliminate loopholes in the effectiveness of internal control systems.

Budget circular instructions should be subject to revision, taking into account shifting national priorities. Budget circular instructions are currently too restrictive and they do not account for shifting national priorities. For example, essential operation and maintenance expenditures remain under-budgeted. On the other hand, capital projects appear not to be linked to a long-term strategy for essential capital investment necessary for delivery of services. Nor are projects systematically evaluated in relation to their economic and social impact, using cost-benefit analysis or similar techniques. It is essential to be flexible enough in the project planning and evaluation procedure in order to adjust to the actual needs and priorities.

There is a need to establish a baseline of service delivery indicators at the school level to monitor performance. Although key budgetary and personnel decisions are subject to central government control and provision, the MoE lacks information on the service delivery performance of individual schools. Monitoring and evaluation require developing a set of service delivery indicators as well as a baseline survey at the school level. The MoE should consider ways to make individual schools fully accountable to their respective constituencies, in terms of their effectiveness and efficiency in delivering pre-specified results.

⁴⁵ See Annex A for detailed information.

The government should consider establishing a set of performance indicators for budget allocation within reform initiatives, such as NBEDS. A set of performance against results should be a key element in determining the annual budget allocations to individual spending units. The cabinet is responsible for setting policy priorities and determining the budget envelopes for different sectors. The budget reflects the government's priorities as expressed in a medium-term policy document that is linked to multi-year indicative spending plans. Together with the MoF, the MoE should develop a set of performance indicators for reform initiatives, such as NBEDS, as they are undertaken. These indicators should be used for budget allocation across governorates as well as for individual components of a reform initiative. Officials at both central and local levels should be held accountable for results achieved through their spending programs.

A budget envelope should be provided to individual spending units in order to both control inflated demands and better assist in prioritizing the needs. This could be the first step toward developing a multi-annual approach to planning and budgeting. In the existing system, the budget execution at the local level is tightly controlled by the MoF through time-phased budget allocations to the governorates. However, there is a need to develop a system whereby each program/sub-program manager is delegated a major role in budget formulation and execution and is held accountable for delivering pre-specified results. Such a system should create an incentive-based culture geared to effectiveness and cost-efficiency.

There is a need for thinking about increasing the autonomy of governorates and districts on expenditure decision making. According to the Local Authority Law, governorates are not allowed to make recurrent spending from their own source of revenues; they can only make capital expenditure. Therefore, the incentive structure is in favor of new investments, which causes to the depletion of the capital stock and the inflation of future investment requirements.

6.2 Teacher and Student Management

There needs to be better communication between the MoE and the MoCS to lower qualifications in teacher hiring. The MoCS requirements remain too rigid and do not fully apply to the existing need for teachers for grades 1-6. The minimum qualification requirement for teaching grades 1-6 is a diploma from a two-year teacher institute whereas for grade 7 and above, the minimum qualification requirement is a bachelor's (undergraduate) degree. Since teachers with a two-year degree are paid less than those with a four-year university degree, none of the university degree holders choose to teach in lower grades. Salaries between lower and upper grades could be equalized to encourage the university graduates to teach grades 1-6, especially if these teachers are specialized in the needed subjects (i.e., math and science)

Hiring should be merit-based rather than residency-based. The tendency of hiring teachers based on their residency contributes to the deficiencies in teacher deployment. Teachers who are specialized in one or more needed subjects should be given priority in order to fully respond to the shortages and students' learning needs.

The rural-allowance scheme should be effectively implemented. The relocation issue has an important bearing on incentives provided by the rural allowance scheme instituted to give monetary incentives to teachers for serving in rural areas. The conviction in the field is that

due to frequent and corrupt teacher relocation practices, this allowance scheme⁴⁶ is misused and is far from encouraging teachers to serve in the rural areas. The recent decree is a good step in the sense that it attempts to eliminate corrupt practices in receiving wage top-ups and instead pave the way of teacher selection based on merit.

Multi-subject teaching makes sense when there are no teachers available. While single-subject teacher can be advantageous in terms of specialization of the subject, it is possible to combine similar subjects such as Arabic and Islamic Study or math and science. While Multi-subject teaching might call for specific teacher training, it could result in a more efficient use of the official teaching hour. On the other hand, multi-subject teaching for more than several subjects in different fields must be carefully monitored in terms of quality of education.

Substitute Teacher mechanisms should be formalized. The substitute teachers designated by principals often have their own teaching load; thus, they may perceive such standby assignments as an additional burden. They either may not teach or may give the task to an absentee teacher, who does not necessarily carry the qualifications required for teaching. The absence of a formalized substitute teacher mechanism is a serious shortcoming in the basic education system and has grave repercussions for students' learning opportunities. There needs to be better cooperation among local schools to provide substitute teachers.

Leave authorization mechanisms for teachers should be better monitored. Mismanagement of leave authorization for teachers at schools is one of the key factors in high absenteeism rates. It is very easy to give a teacher authorization of official leave if the teacher is a close friend of the school principal. In order to avoid such a problem, the process must be systemized and monitored at the DEO level. The DEO should require submission of an official request by FAX or telephone by, at latest, one day before the day a teacher wants to have a day off. Any absence claimed on the day of that absence should be regarded as either unofficial or contingency. The DEO should ensure that every school has an official attendance sheet and that it is checked frequently. It is very important to ensure that principals understand how to fill out the attendance sheets, and that they monitor the attendance sheets regularly; therefore, including this component in the principal's training can be useful.

Early departure and late arrival of teachers also needs to be better monitored. Indeed, more than one-third of unauthorized absenteeism was unacknowledged by principals during the school visit. Some of these absences were due to teachers leaving early or arriving late to schools. Interviews have found that many teachers quite commonly leave schools during their breaks and go buy *qat*. For the purpose of maintaining the motivation of other teachers and students, these early leaves and tardiness must be taken seriously and should be strictly monitored by attendance sheet and leave authorization. Especially since tardy students can face strict punishments, negligence of the same issue when it comes to teachers creates a double standard in terms of the overall discipline in the schools.

Teacher absenteeism especially must be monitored on Thursdays. The study found out that more teachers are absent on Thursdays, reflecting the overall reluctance in Yemen for

⁴⁶ The Prime Minister issued the decree No 120 of 1999 concerning the amount of rural allowance scheme. In an attempt to determine the amount of rural allowance by geographical remoteness, the government has classified the rural areas into seven main levels. Teachers receive wage top-ups ranging between 30 percent (for those who work in districts classified as level 1) and 60 percent of their base salary (for those who teach in district classified as level 7). The districts that are excluded by these seven specified levels are not eligible for rural allowances.

going to work on Thursdays, including the field enumerators who were hired for this study. If this is a prevalent problem, it is important for communities to take part in and encourage both teachers and students to go to school. Due to mismatching students' headcounts with registration, we did not use students' absence rate for this analysis, but this factor also should be considered.

Official absence due to teacher training should be reviewed and differently implemented. The study has found in fact that many absences are associated with official duties. Approximately one in five absences recorded during the field visits were due to official duties. While the election duties are special to this year, official absence due to teacher training should be reviewed and differently implemented. Teacher training lasts usually more than a week, and unless substitute teachers are properly deployed, students lose their opportunities to learn. Teacher training should be arranged during summer holidays or the semester break in January, which requires sufficient programming capacity of teacher training sector in liaison with governorates and districts.

Gender-sensitive arrangements in teacher and student management are key to reaching targets in basic education. Increasing the female student enrollment rate is crucial for reaching GER and GSER targets, and increased female enrollment largely depends on availability of female teachers, especially in rural areas. One obstacle to deploying more female teachers in rural areas is the social restrictions they face in finding housing and freedom of movement, especially if they are single. The school authorities should take these issues into serious consideration and reserve living areas close to schools for female teachers and provide the necessary transportation.

Double-shift schooling should be thoroughly considered in efforts to increase female enrollment. Utilizing double-shift schooling (girls in the morning and boys in the afternoon) might increase girls' enrollment rate without increasing the need to build new schools for girls. This is especially important for higher grades (grade 6 and above) where families are reluctant to send their girls to schools with boys. Since it is within the prerogative of school principals to decide the use of school buildings, instituting a double shift schooling policy in areas with high female dropout rates might be a quick fix to the problem. Mixed schools could also have a positive impact on girls' enrollment once the necessary arrangement is made in terms of the classroom set up and ensuring the existence of furniture.

Student punishment practices should be clearly defined and monitored. There are strict punishments for tardiness of students. While this is important to provide discipline and to prevent disruption of the learning environment in classrooms, these punishments should be acceptable in terms of human-rights standards. For example, making female students clean bathrooms for being late is not an appropriate punishment. Training should be offered to school principals on equal treatment of boys and girls. They should be the responsible party for also monitoring other teachers that these practices do not take place. FMCs could also play a role in ensuring the fair treatment of students.

Amongst the surveyed schools, there was a clear trend that schools with FMCs tend to have less teacher absenteeism. Therefore, one of the proposed solutions for reducing teacher absenteeism is to have effective FMCs in schools across the country, which actively interact with teachers and school staff and monitor their activities. In fact, the presence of FMCs at school is sufficiently weaker in northern governorates of Saadah and Hodeidah, compared to FMCs in southern governorates of Shabwah and Hadramout. All governorates should be

strongly encouraged to set up an FMC at each school in order to minimize teacher absenteeism.

6.3 Salary Delivery and School Resource Allocation

Salary Delivery needs to be accomplished in a more prompt and transparent way. Delay and inconsistencies in salary delivery, currently done by GEO or DEO accountants, is a demoralizing factor for teachers. A common practice of uncertain salary deduction by GEO, DEO, or principals should be stopped. It is important to review the current mechanism of salary delivery adopted in different schools and to apply the most prompt and reliable mechanism according to the geography and administrative capacity of the governorate or district. If the post office is available, teachers should be able to receive their salaries in person from the post office. Although salary delivery through post office is practiced only in major cities in Taiz and Hadramout (among the studied governorates), there should be efforts to expand this practice to other areas.

Teachers should receive pay-stubs for each payment. Field survey has found teachers never see their pay stubs and they never know how much they are supposed to receive for the particular month. In order to avoid this problem, pay stubs must be given to teachers each month. This can be rather easily implemented by issuing pay stubs and attaching with the salary itself.

Textbooks need a more effective delivery and redistribution mechanism. The average estimated availability of textbooks does not match the actual needed quantities. The country-wide estimations of textbook return rates do not reflect governorate and district-based concerns. There needs to be careful analysis of local variations in textbook return policy; for example, some governorates supply books for higher grades on a “disposable” basis and certain schools charge students random fees per each book lost. Analyzing these variations is crucial to address the problem of some governorates having a surplus and others a shortage in textbooks. In order to ensure the consistency of learning materials, the MoE should consider redistribution mechanisms of textbooks left over in stock from previous years and better tracking of or harmonizing with local textbook collecting procedures. Some school principals use some of the school fees to rent trucks to the district warehouse to collect their books. All officials and principals reported that the current mechanism of textbook distribution is not cost effective where they need to go to the district office several times a week, which disrupts them from carrying out their daily duties in school.

Additional studies that focus on the estimation of the scale of efficiency gains implied in this report as well as potential savings from improving the procurement system and addressing the root causes of absenteeism should be conducted. It is very difficult to estimate the concrete financial implications and monetary value (i.e., wage and salary leakages) of an issue as complex as absenteeism, which not only has economic, but also social and political dimensions. Nevertheless, there is a need for additional work to estimate the fiscal impact of the prevailing absenteeism in the country. Another area that calls for further study is the procurement system in the basic education sector (e.g., purchase of school materials). A detailed diagnosis would help to examine the grave obstacles the procurement system currently faces. Furthermore, the potential savings that would be generated if effective policies were in place, particularly addressing the fiscal leakages, is expected to be estimated in the next round of studies on the public expenditure management and tracking in the Yemeni basic education sector.

Table 33. Matrix of Issues and Policy Recommendations

Issues	Item No.	Main Findings	Options/ Recommendations	Priority*
Budget Preparation and Execution	1	Monthly and year-to date figures are not aligned with budgeted figures. There are loopholes in of internal control systems.	The authorities should look into the budgeted execution performance during the fiscal year, rather than only at the end	LT
	2	Budget circular instructions do not always reflect national priorities.	Budget circular instructions should take into account shifting national priorities and social and economic impacts of projects should be evaluated.	LT
	3	MoE lacks information on the service delivery performance of individual schools	There is a need to establish a baseline service delivery indicators at the school level to monitor performance and learning outcomes	MT
	4	The budget execution at the local level is tightly controlled by the MoF	A budget envelope should be provided to individual spending units in order to better control inflated demands and assist in prioritizing needs.	MT
	5	Budget allocation is not fully based on performance indicators	The government should consider establishing a set of performance indicators for budget allocation within reform initiatives, such as NBEDS.	MT
	6	The incentive structure for spending on the governorate and district level is in favor of new investments	The autonomy of governorates and districts on expenditure decision-making needs to be increased so that they are allowed to make recurrent spending from their own source of revenues.	MT
Teacher and Student Management	7	MoCS criteria of teacher hiring is too rigid	There needs to be better communication between MoE and MoCS to lower qualifications in teacher hiring and address current needs for Grades 1-6.	ST

Issues	Item No.	Main Findings	Options/ Recommendations	Priority*
	8	Teachers are hired according to residency.	Hiring should be merit-based rather than residency-based. Give priority to teachers specialized in needed subjects	MT
	9	Relocation practices particularly to rural areas are misused	The rural-allowance scheme should be effectively implemented, abuse of wage-top ups needs to be monitored	MT
	10	Multi-subject teaching is useful when it combines similar subjects such as math and science	Multi-subject teaching option need to be fully explored to address shortage of teachers	ST
	11	There is no functioning substitute teacher mechanism	Substitute Teacher Mechanism should be formalized and implemented with cooperation of close by schools	ST
	12	Leave authorization process is not well systemized.	Require submission of official leave request beforehand. Require FAX or phone call from school to DEO.	ST
	13	Many principals do not keep track of absentee teachers, including early departure/late arrival.	Include log-book management in principal training (if not included).	ST
	14	Teacher absenteeism is higher particularly on Thursday.	Watch teacher attendance especially on Thursday. Encourage the community to monitor.	ST

Issues	Item No.	Main Findings	Options/ Recommendations	Priority*
	15	Frequent official absence due to teacher training	Teacher training should be held during summer vacation or between semesters.	ST
	16	Female teachers face additional difficulties in teacher deployment	Reserve living areas close to school for female teachers and provide the necessary transportation.	MT
	17	Double-shift schooling useful to increase female enrollment.	Implement double-shift schooling particularly in rural areas where female enrollment is low	MT
	18	Female students face heavier punishment for tardiness.	Train principals on fair and humanitarian punishment of students	ST
	19	FMCs help decrease absenteeism rates	Encourage creation of FMCs at each school,	ST
Salary Delivery and Resource Allocation	20	There are delays and inconsistencies in salary delivery, currently done by GEO or DEO accountants	Salary Delivery needs to be carried out in a more prompt and transparent way, i.e. through post offices	MT
	21	Teachers cannot keep track of salary they ought to receive for the particular month.	Teachers should receive pay-stubs for each payment.	MT
	22	The average estimated availability of textbooks does not match the actual needed quantities.	Textbooks need a more effective delivery and redistribution mechanism based on governorate-specific needs	MT

* *Priority* = immediate, short term (ST), medium term (MT), long term (LT)

Annex A: Budget Preparation and Execution at Different Levels⁴⁷

The Constitution and the Financial Law No. 8 of 1990 (and its amendment law no.50 of 1999) lay out guidelines for the budget preparation processes. According to these laws, the responsibility of budget preparation is shared among different entities and ministries. The most important of these entities are the House of Representatives, the President, the Prime Minister, the Council of Ministers, the Ministry of Finance, and the line ministries.

The budget process in Yemen starts with the convening of the High Budget Committee (HBC). The HBC members include Prime Minister, Ministers of Finance (MoF) and Planning, as well other line ministers. The HBC discusses the directives⁴⁸ for budget preparation and submits them to the MoF. The MoF convenes the budget technical committee, which reviews the directives sent by HBC and prepares the budget circular. The MoF's budget circular provides general instructions to ministries and other budgetary institutions about their allocations using a process of incremental budgeting with a de-facto ceiling for wages and salaries (details and decisions on promotion, retirement, and new hiring are provided by the Ministry of Civil Service & Administrative Reform [MOCSAR]), which are, by far, the largest share of current expenditures.

The budget circular is sent to all ministries and budgetary units. Ministries form an internal committee to prepare the budget proposal. The MoF reviews the budget proposals and provides comments to the budget technical committee. The committee receives both the comments and budget proposals sent by the ministries and government units. It holds discussions with all budgetary institutions to align their proposals with the budget circular. Ministries and government units then revise their budget proposals following their discussions with the committee. When the committee receives revised budgets, it sends them to the HBC for a final review. Following the HBC's approval, the budget proposal is discussed within the Council of Ministries, which then sends it to the House of Representatives. When the Parliament enacts the budget law, the MoF prepares the approved budget for each ministry and government unit.

For central government units, unutilized budgeted amounts during a fiscal year cannot be carried over to the next fiscal year. Local governments' unutilized budgeted amounts, on the other hand, can be carried over to the next fiscal year. The Central Bank of Yemen is required to provide monthly reports for the financial activities of all government units (including ministry and department levels) to the MoF.

At the end of the fiscal year, governmental budgetary units prepare their own final accounts. These final accounts are sent to the MoF, who is responsible for preparing consolidated final accounts for all government units, and to the Central Bureau for Auditing and Accounting (CBAA). All final accounts should be prepared and submitted to the Council of Ministers and the House of Representatives within nine months of the

⁴⁷ This annex is a summary of a background report prepared by a consultant: Rafat Ghabayen, (2005) "Public Expenditure Tracking Survey Baseline Study: Education Sector - Republic of Yemen."

⁴⁸ Directives are policies in nature and reflect central government strategies and long term plans.

end of fiscal year. Meanwhile, payroll should be prepared before the fifteenth day of the current month and should be sent to accounting department before the eighteenth day of each month. None of the existing financial departments requires real count for staff and their existence. All directives require that accounting and auditing procedures be built on sampling and random checks.

Figure A 1-1: Budget Preparation Process

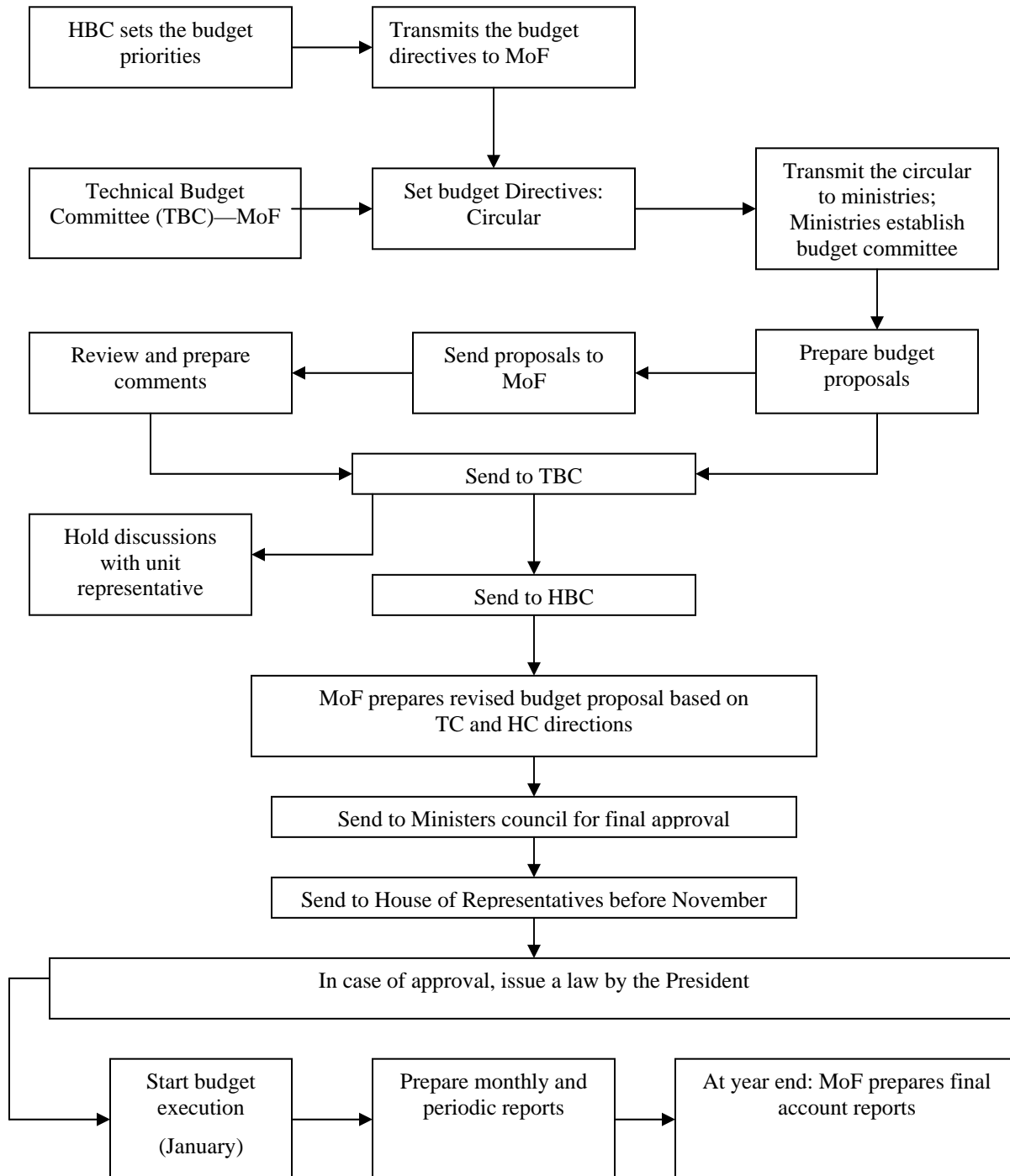


Figure A 1-2: Revenue Collection

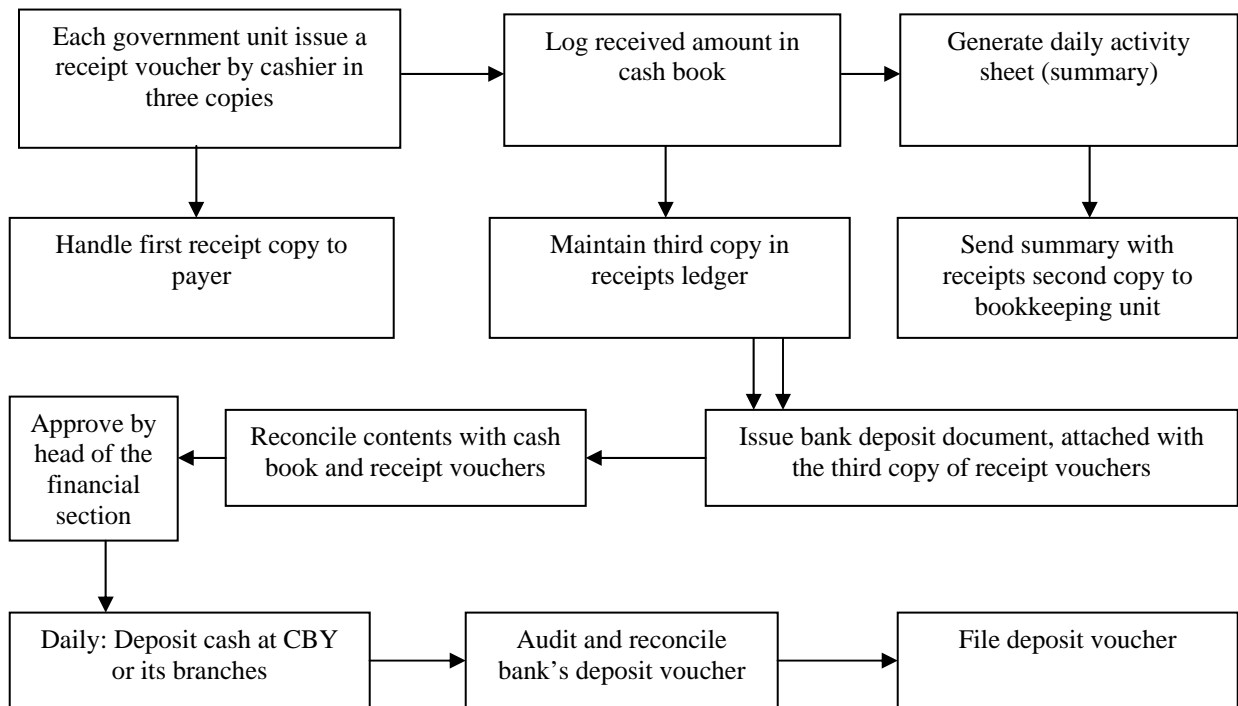


Figure A 1-3: Non-Salary Expenditure Process

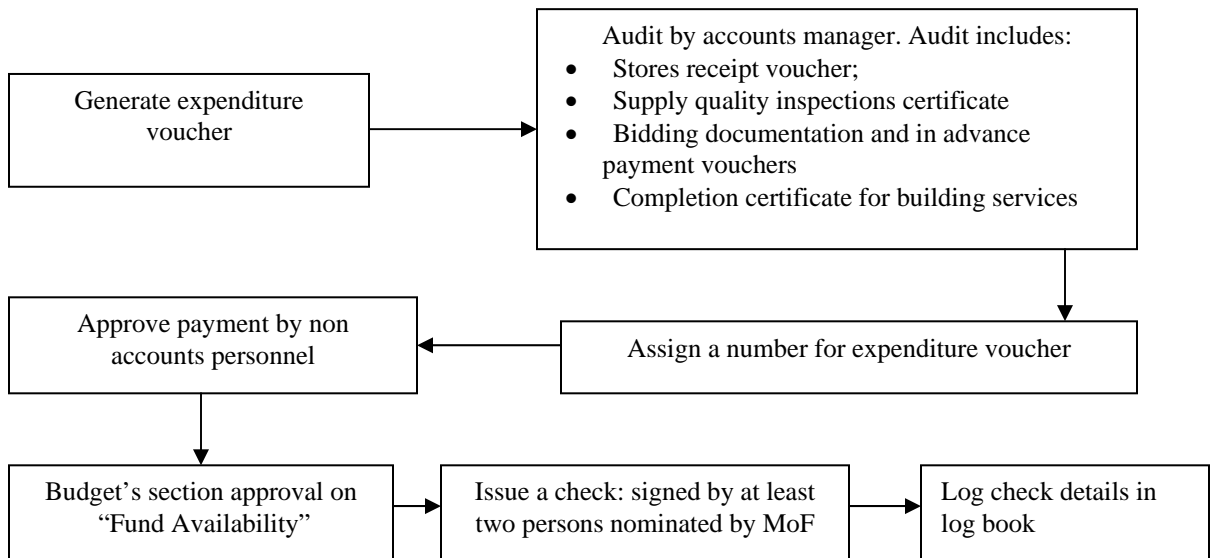
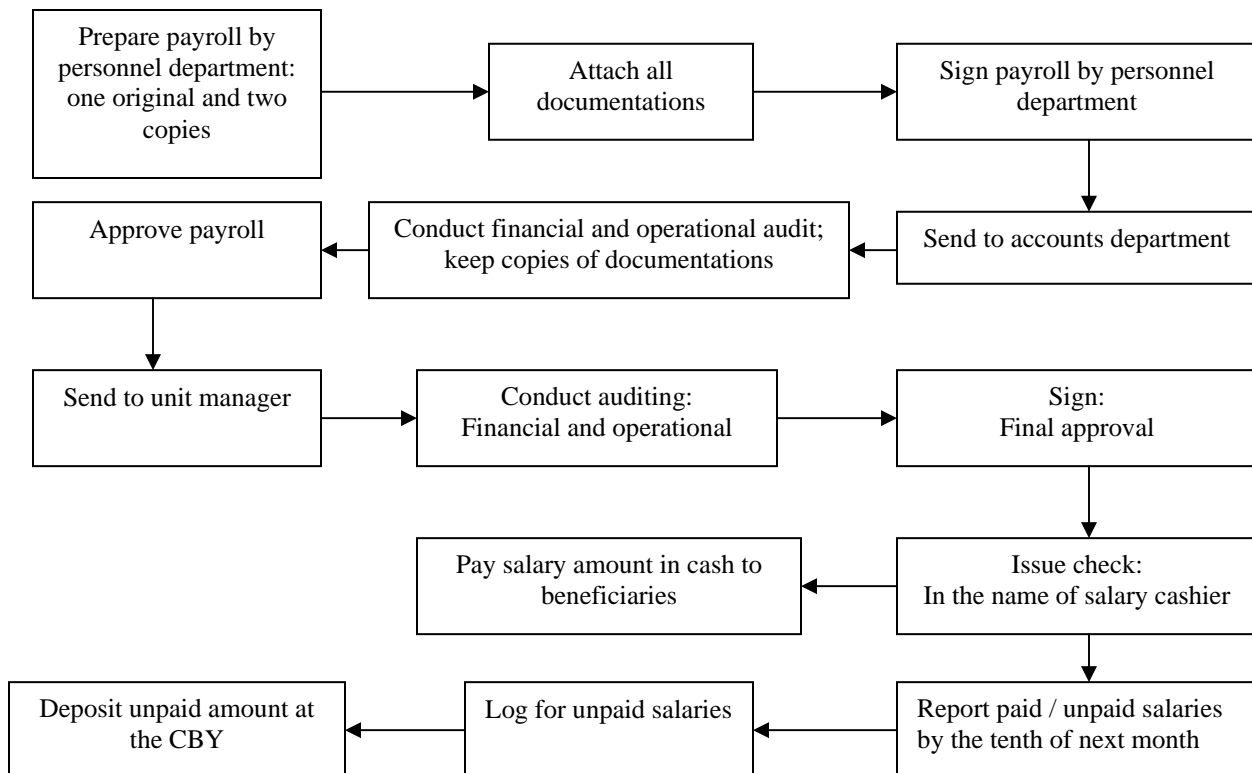
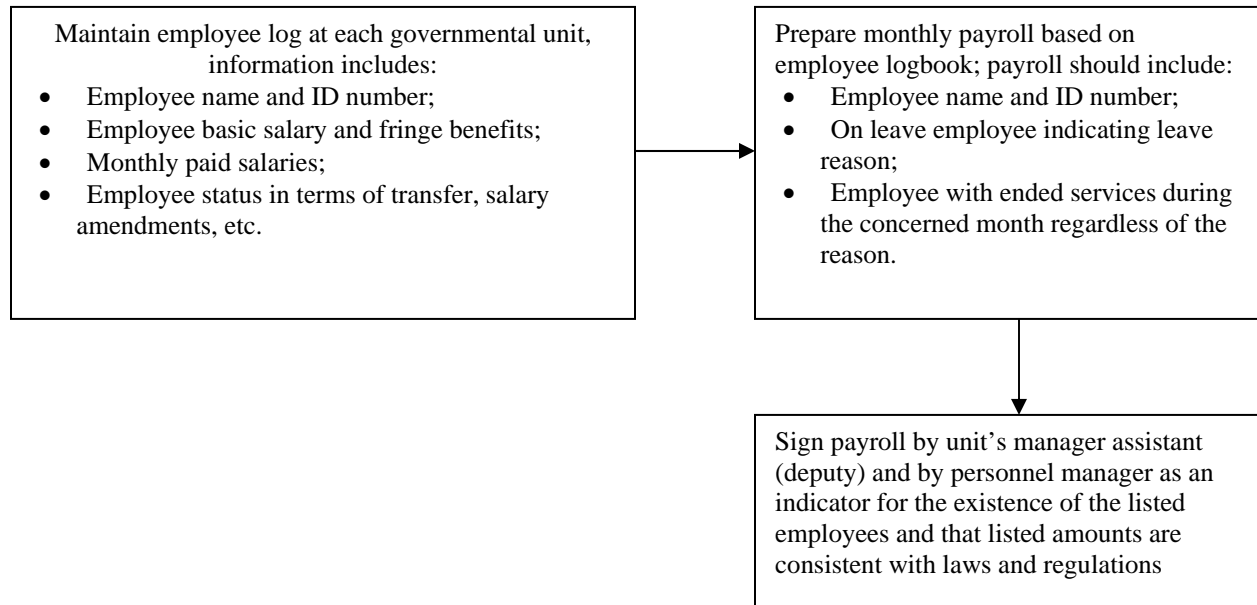


Figure A 1-4: Salary Expenditure Process

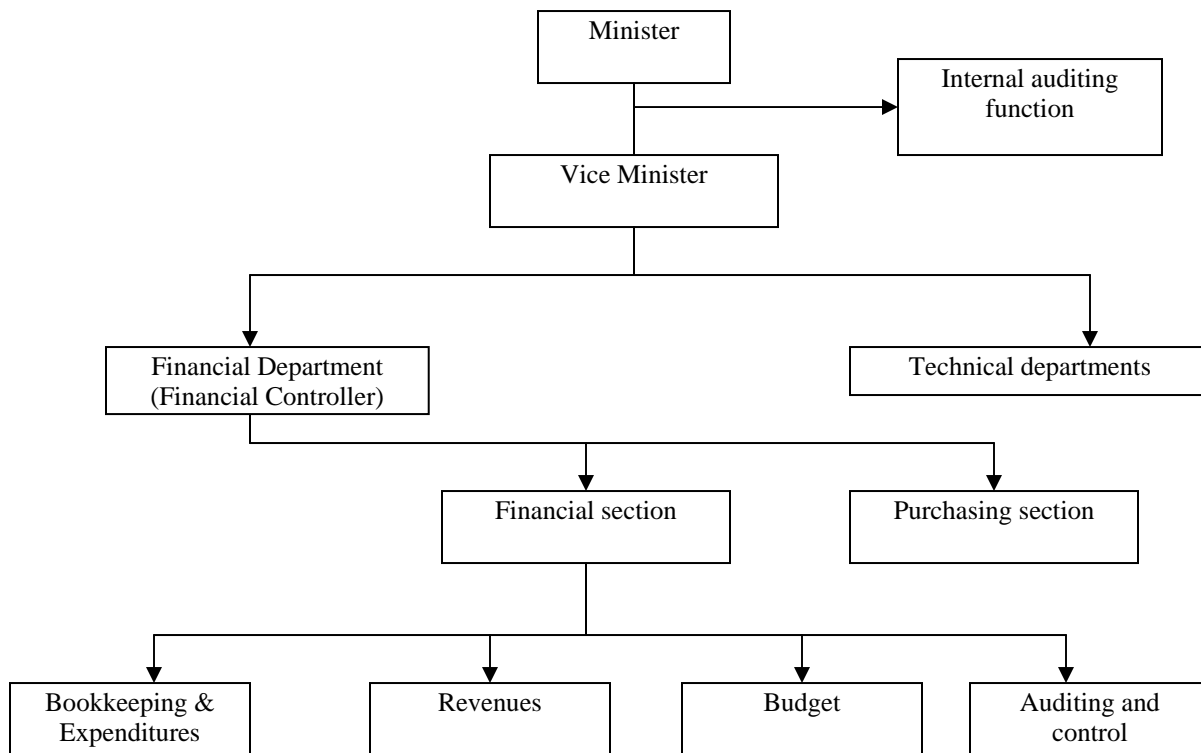


Budget Preparation and Execution Cycle at the Ministry of Education

The financial department within the MoE is responsible for the budget preparation work. The department has two sections: Purchasing and Financial. The financial section has four units: (i) the revenues unit, responsible for collecting revenue items, as well as for logging collected units and depositing collected funds at the Central Bank of Yemen; (ii) the budget unit, responsible for budget preparation at the MoE in coordination with other departments such as the projects department—who is responsible capital projects. The budget unit is also responsible for logging actual expenditures at payment phase,⁴⁹ as well as for reporting the actual versus budgeted figures for certain budget line items;⁵⁰ (iii) the bookkeeping and expenditures unit, responsible for executing payment of expenditures after being reviewed and approved by both the budget and auditing units. The unit prepares checks, logs transactions in the ledgers and prepares the financial reports at each month's end; and (iv) the auditing unit, responsible for reviewing the legality of the expenditures before they are processed.

The following diagram illustrates the organizational structure of the MoE.⁵¹

Figure A 1-5: MoE Organizational Structure



⁴⁹ Identify the relevant budget line item and log expenditure amount in the budget book.

⁵⁰ A preprinted form is sent to report the actual versus budgeted amount for donations “assistance” to local communities; the report is addressed to the minister through the financial controller

⁵¹ Source: Ministry of Education

The budget preparation process in the MoE, as well as in other ministries, begins once budget circular is received from the MoF.⁵² The budget unit within the MoE is the core unit in the budget preparation process. Current expenditures include salaries and wages, supplies, and maintenance and other operational expenses.⁵³ In addition, the budget unit sends letters to both the revenues and projects units. The revenues unit prepares the revenues budget, including certification fees, legal documents, and other items. The projects unit, in coordination with the statistics department, prepares the capital budget. The statistics department keeps the records for ongoing capital expenditures.⁵⁴ These projects get priority in resource allocation. The projects department sends letters to the governorates to receive information on their required capital expenditures, reviews those projects requested by the governorates, and prioritizes them according to their importance and relevance to the Ministry's long term plans and strategies. Then, the projects department delivers the capital expenditure proposal to the budget unit. The budget unit collects budget proposals for revenues, capital expenditures and current expenditures.⁵⁵ Once the budget proposal is ready, it is reviewed by the top management at the MoE and then sent to the MoF and TBC for discussion and final approval.

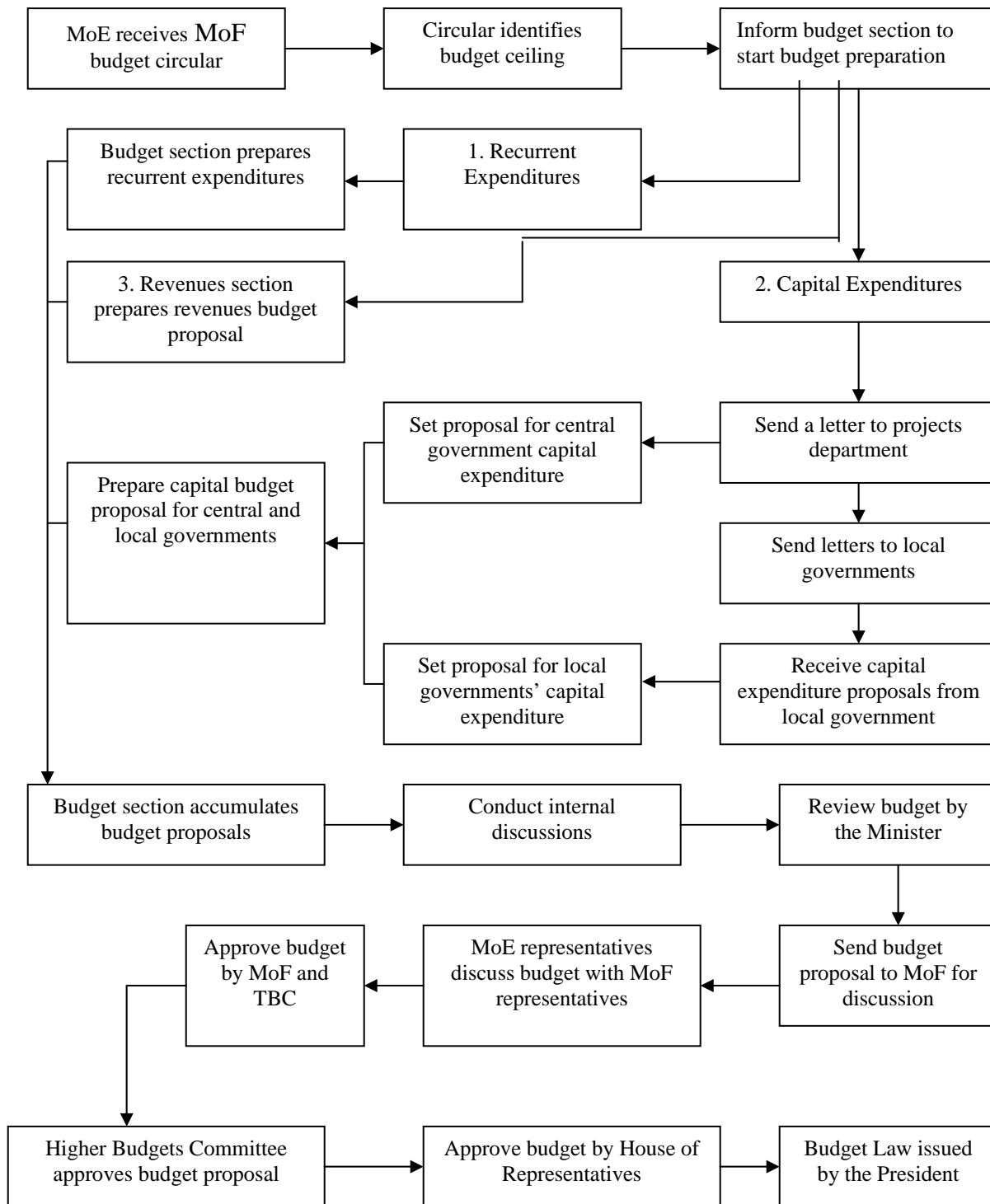
⁵² Similar to many other countries, Yemen employs an incremental budgeting approach.

⁵³ Recurrent expenditures budgeted by the MoE do not include teacher salaries/ wages and other school recurrent expenditures; these items are budgeted for by the local governments.

⁵⁴ Estimated capital expenditures for a project = cost of accomplished portion of the project (if total cost is 1000 and the estimated accomplishment in the next fiscal year is 40%, the budgeted amount for project will be 400 only; the remaining "600" will be budgeted for during coming fiscal years).

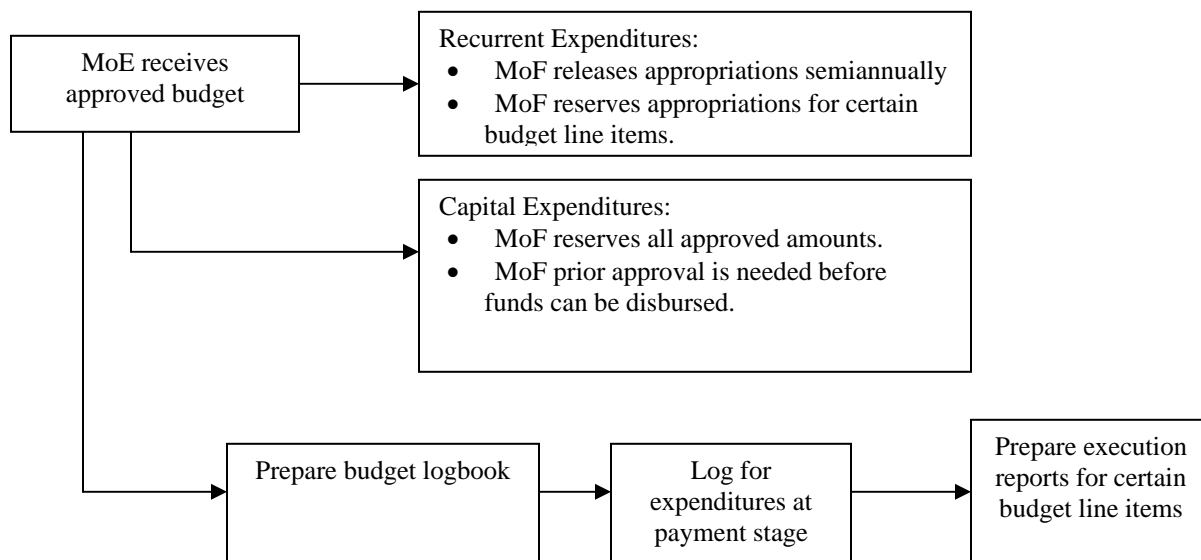
⁵⁵ The MoE tends to inflate its budget over the identified ceiling by budget circular in response to the tendency of the MoF and TBC to perform budget reductions during the discussion phase.

Figure A 1-6: Budget Preparation Cycle in MoE



The MoE has limited control over budget execution. The MoF has discretion on releasing funds for both recurrent and capital expenditures. For recurrent expenditures, the MoF requires pre-approval for travel, capital expenditures, and other related expenditure items. In other words, the financial department within the MoE would also need an approval from the MoF before processing capital expenditure payments.⁵⁶

Figure A 1-7: Budget Execution Cycle



The MoF releases budget funds for recurrent expenditures twice a year. Payments for services provided by non-business institutions are made in cash. The final monthly account contains all budgeting line items for revenues and expenditures, as well as columns for current month and year-to-date accumulated figures. Neither current month nor year-to-date figures are compared with the budgeted figures. It is a common practice to look into the budget execution performance at the end of the fiscal year (by both MoF and CBAA) rather than during the fiscal year. Therefore, the effectiveness of internal control systems is highly questionable. All payment checks are signed by the accounts manager, financial controller, and the minister (although the minister has delegated the responsibility to his deputy). Both accounts manager and the financial controller in the MoE are MoF employees.

⁵⁶ As capital expenditures amounts are substantial, MoF prior approval at payment stage is needed to avoid disbursing faulty big payments, as a financial control measure. Such an approval is one of the required legal documents that should be attached to the expenditures voucher. The MoE, as in other ministries, does not log for accrued and unpaid expenditures.

Figure A 1-8: Expenditure Cycle in MoE

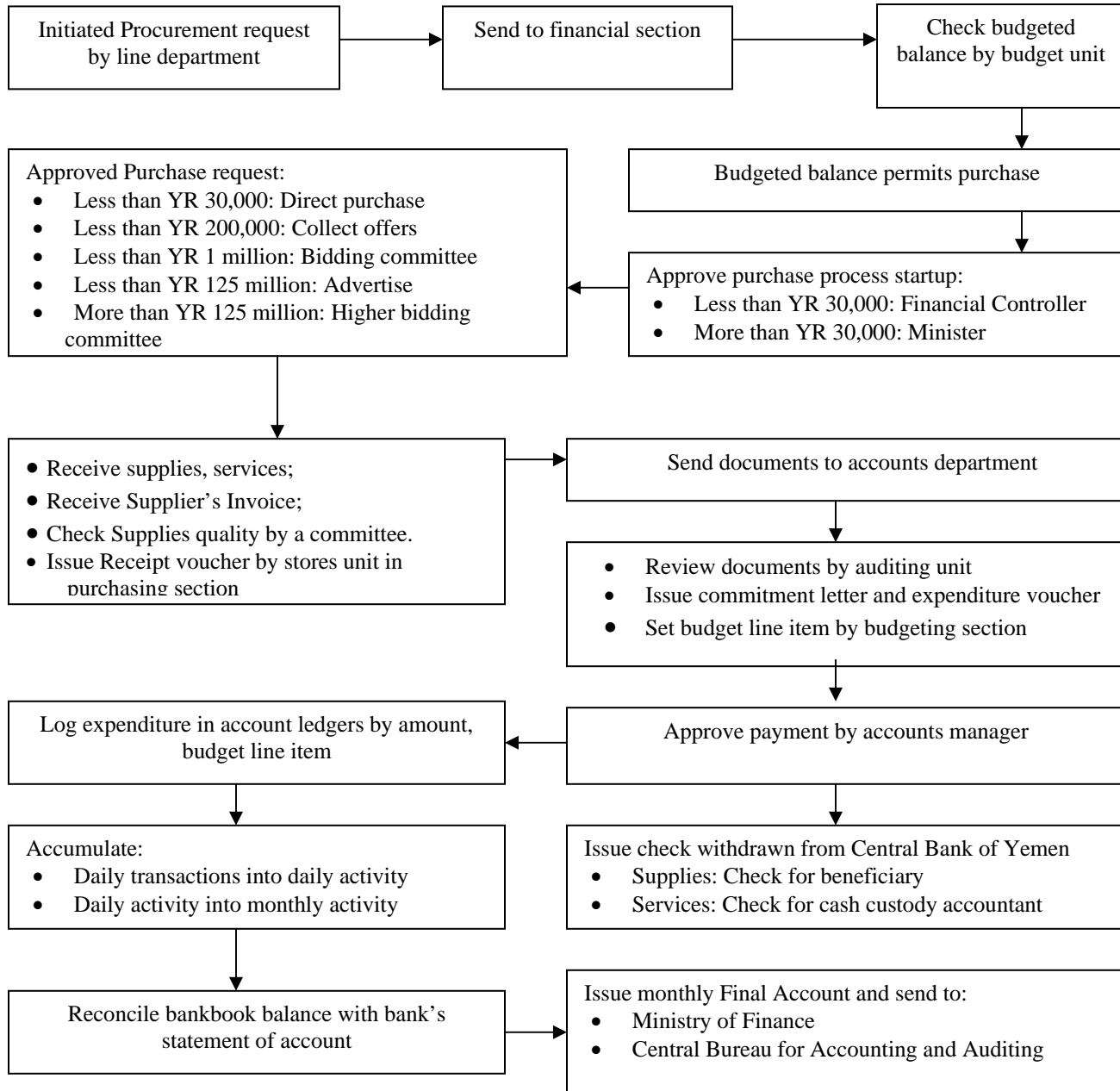
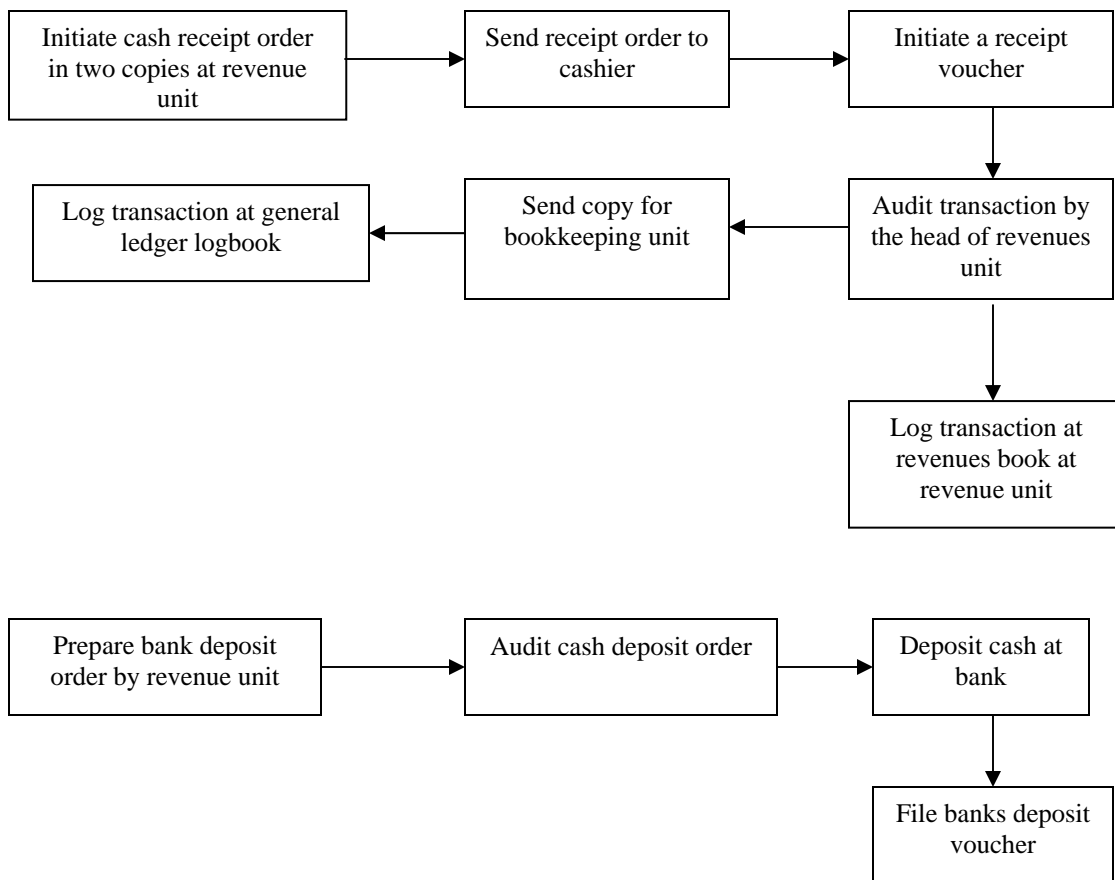


Figure A 1-9: Revenue Collection Cycle



Budget Preparation and Execution Cycle at Subnational Levels

The budget preparation process at the local level starts when governorates receive the MoF's budget circular. The budget circular instructions are restrictive in that recurrent expenditures are given no flexibility to account for shifting subnational government priorities. For example, they do not leave room for essential operation and maintenance (O&M) expenditures that have been historically underbudgeted. On the other hand, capital projects appear not to be linked to a long-term strategy for essential capital investment necessary for delivery of services. Nor are projects systematically evaluated in relation to their economic and social impact, using cost-benefit analysis or similar techniques. Therefore, the capital investment budgets are essentially a compilation of investment projects without clear indication of their context and strategic importance. The incentive structure is in favor of new investments, which contributes to the depletion of the capital stock and the inflation of future investment requirements.

The executive office (heads of the ministry branch offices) of local districts prepares a draft annual budget and submits it to the local Council for approval. Each ministry's office at the district level prepares the budget for the next fiscal year, which is then

reviewed by the district's budget committee. An estimated district revenue amount is allocated to different line agency offices at the district level. In general, 40 percent of the estimated revenues are allocated to the MoE and 30 percent is allocated to the Ministry of Health (MoH). This amount does not include central government transfers, which is used for the wage and salary expenditures. There are two sources for capital expenditures at the district level: (i) the allocated amount from the district's local revenues (40 percent of district's local revenues) (ii) the MoE capital budget⁵⁷.

Once districts prepare their budget, the proposal is then sent to the governorate budget committee for review and approval. The GEO and the district budget committee discuss the DEO's budget proposal with the governorate budget committee to reach an agreement.⁵⁸ The governorate committee collects approved district budget proposals to come up with a governorate budget proposal, which is then sent to MoF for discussion and approval. Before the full council discussions on the budget, the board of directors (secretary general and the chairmen of three special committees—planning, development, and finance; services; and social affairs) reviews them.

Once the Governor receives the draft budgets for all districts, s/he forwards them to the Plan and Budget Committee of the governorate, comprising the Governor, the Secretary General of the local council of the governorate, the chairmen of the special committees of the local council for the governorate, and the general directors of the ministries of Finance, Civil Service, and Planning in the governorate. The committee analyzes and makes necessary modifications to the drafts. The committee then submits the consolidated draft budget to the local council of the governorate for approval.

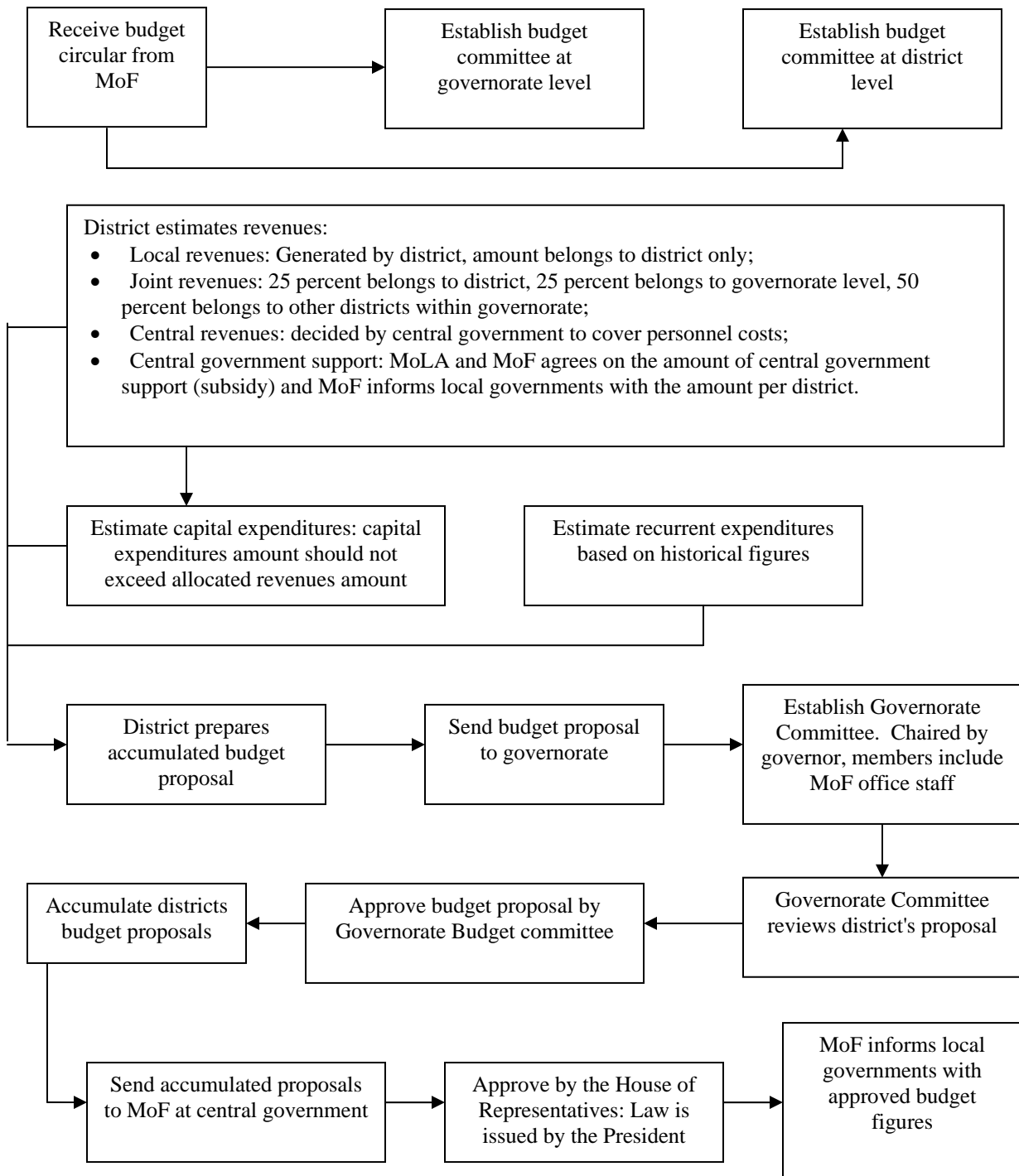
Once the governorate's consolidated budget is approved by the local council of the governorate, according to the bylaw, the governor should submit it to the MoF and the MoLA. After receiving them from the governorates, the MoLA submits them to the High Budget Committee⁵⁹ for discussion, review, and consolidation into a general government budget.

⁵⁷ According to financial officials, technical capacity for local governments to budget and execute capital expenditures is below the required level of competence.

⁵⁸ DEO personnel are not called to attend this discussion meeting unless the Director of DEO is a member of district budget committee.

⁵⁹ The local authority financial bylaw is not clear about the power of higher authorities on local budgets. For example, article 18 states that local authorities should submit their plan and budget to the MoLA in order to complete approval procedures; and according to article 19, the MoLA should immediately submit them to the High Budget Committee. It is not clear whether the MoLA or MoF have the authority to make changes on local government budgets.

Figure A 1-10: Budget Preparation Cycle at the Subnational Level



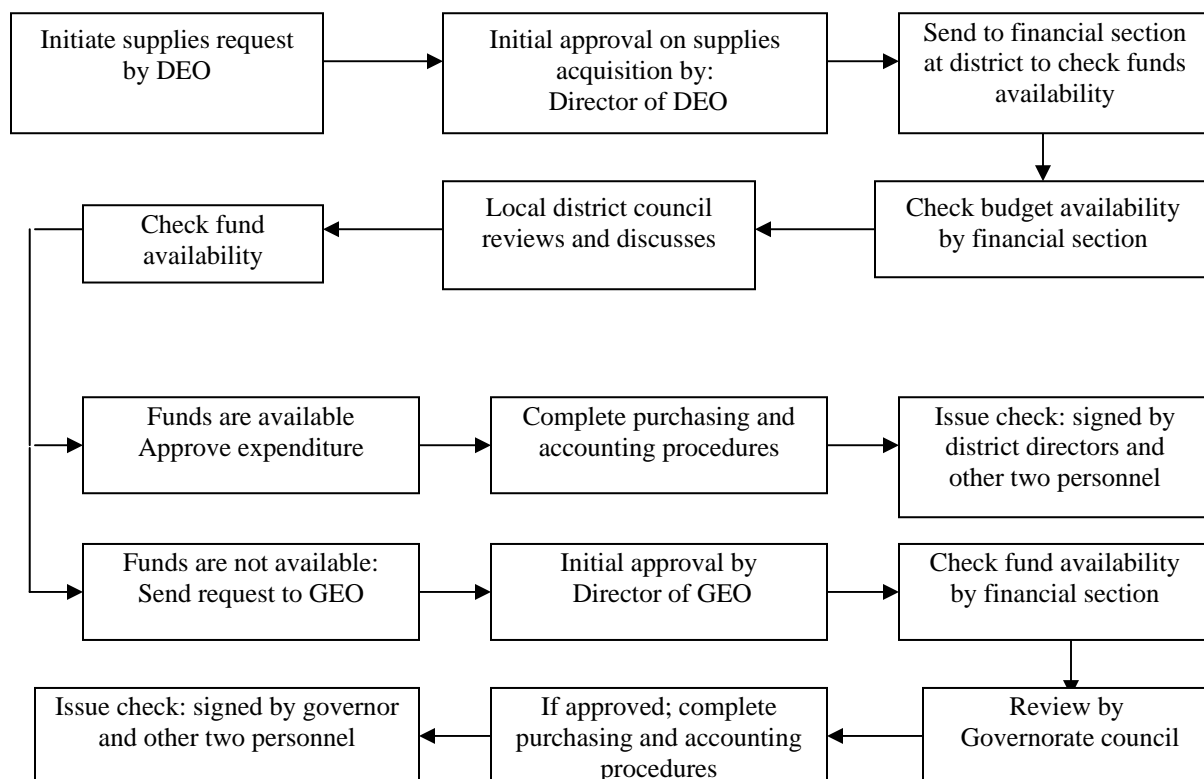
Budget execution at the local level is tightly controlled by the MOF through time-phased budget allocations to the governorates. MOF staff is based in governorate and district levels (referred to as accounting units and finance units) and payment requests are

verified by them and approved for payment. Checks require the signature of heads of the accounting unit and the finance unit, as well as of the Governor.

Bank accounts for budget expenditure are maintained at the CBY. The CBY also maintains statistical accounts that show allocations by agency, sub-chapter, and period, and it uses these accounts to ensure that the proposed payments are within approved limits. Payments are made during the day through agency specific “actual” bank accounts, which are replenished through transfers from the government’s central account at the CBY.

The non-wage and salary recurrent expenditure process starts when a request for supplies is initiated or directed to the Director of DEO. The director reviews the request. If approved, the director sends the request to the budget unit at the district level to check for funds availability (budget). The budget unit sends the request and funds availability status to the local council for review and discussion. If funds are available, the council can approve the request and the procurement process starts. If funds are not available, the local council can either reject the request or send it to the governorate for funding. After procurement is completed, the financial department starts the disbursement process. The processes at the district and governorate levels are similar to the process implemented at the central level.

Figure A 1-11: Subnational Non-salary Expenditure Cycle



The number of new teacher posts is decided during the budget preparation process at the district level and the cost of new posts is included in the DEO's budget proposal. If approved, the DEO's budget proposal is then sent to the governorate budget committee and the GEO. The governorate committee, GEO, and district budget committee review new teacher posts and other budgetary items. The GEO and the district budget committee discuss the DEO's budget proposal with the governorate budget committee to reach an agreement. The governorate committee accumulates approved district budget proposals to come up with a governorate budget proposal, which is sent to the MoF for discussion and approval.

Once the budget is approved, the MoF issues a list of approved new teacher posts and circulates it to the MoE and MSC. The MoE reconciles the number of new teacher posts requested by each governorate with the approved number by the MoF. The MoE also identifies the subject areas and gender requirements for the approved posts. The MoE then informs each governorate and the MSC on the approved number of teachers and the breakdown for these posts according to the subject areas and gender. The MSC then starts selecting candidates from its database.⁶⁰ The selected employees are asked to submit their documents to the director of GEO for review. If the candidate qualifications meet the requirements, the MSC is notified by the director of GEO to determine the salary and benefits. The MSC then sends a letter to the governor, addressing the newly nominated staff. The governor issues an appointment letter.

The new teachers are allocated among the districts according to the recommendation by the director of GEO submitted to the governorate budget committee. The director of DEO is responsible for allocating new teachers among different schools. The director of GEO submits the new teacher list to the MoE with the supporting documents to get their names keyed into the MoE's staff database. The personnel database is maintained at the governorate level.

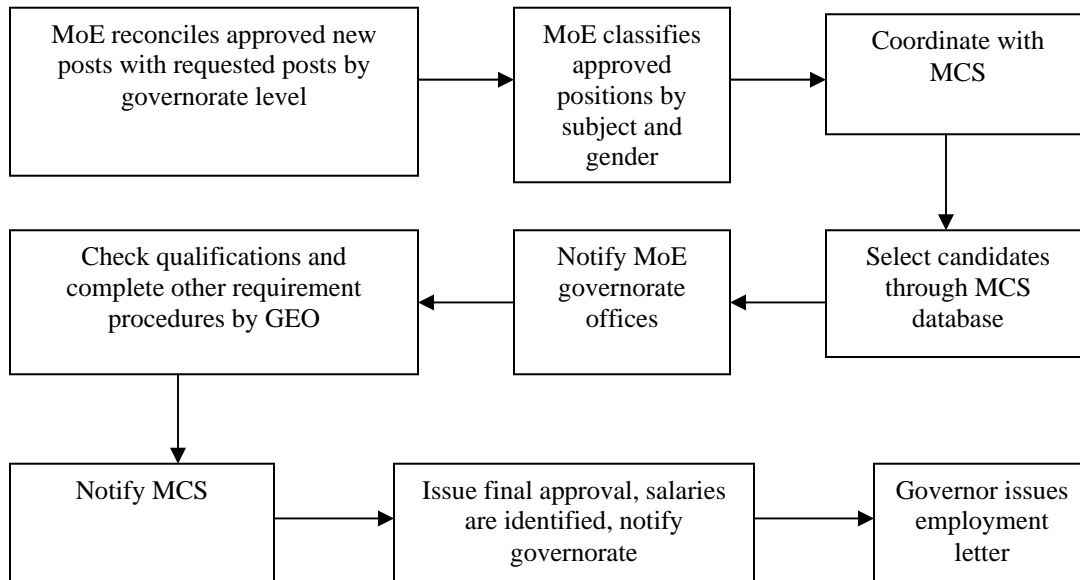
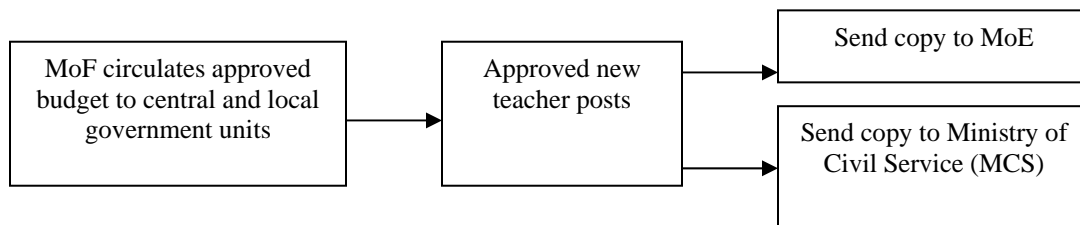
Payroll auditing performed at local level is based on reconciling the total salary of previous and current months. The DEO has financial supervisors, who in theory conduct site auditing for attendance sheets and review school principal reports at schools. No transportation means are made available to them, as they are expected to find their own transportation to reach the schools. This expectation increases the risk of the financial supervisors not conducting the necessary audits at school level.

In the majority of governorates, salary amount is withdrawn in cash from the Central Bank branches.⁶¹ District salary cashiers then distribute the amount to the school representatives, which raises the question of cash custody risks. More importantly, district budgets usually lack the provision to cover the cost of replacement teachers. For example, when a female teacher is on a maternity leave, the financial system does not permit the employment of a replacement teacher.

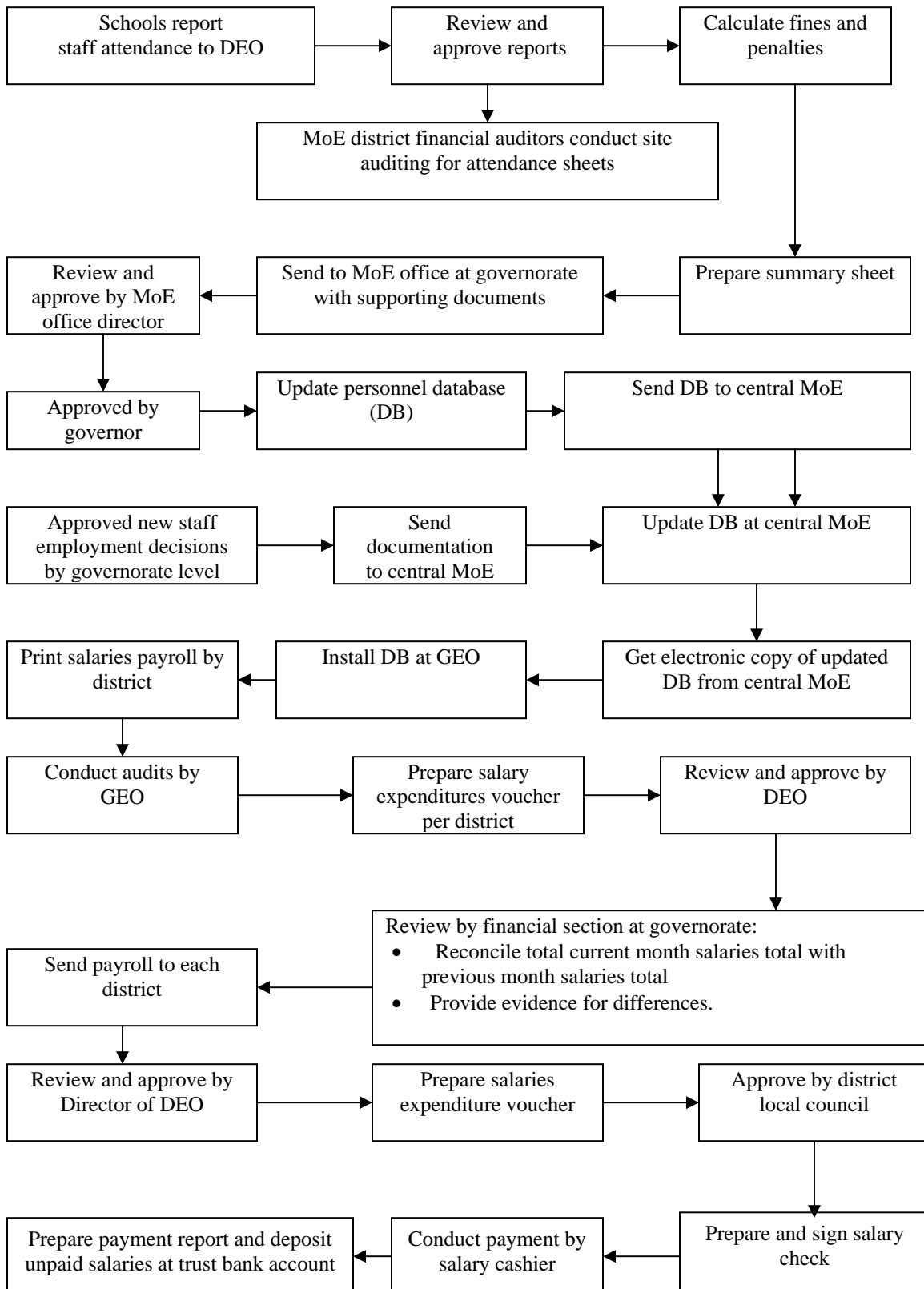
⁶⁰ The Ministry of Civil Services (MCS) selects the candidates without the participation of the MoE.

⁶¹ Salary payments are deposited to the bank accounts of teachers in only 3 out of 21 governorates.

A 1-12: New Teacher Hiring Process

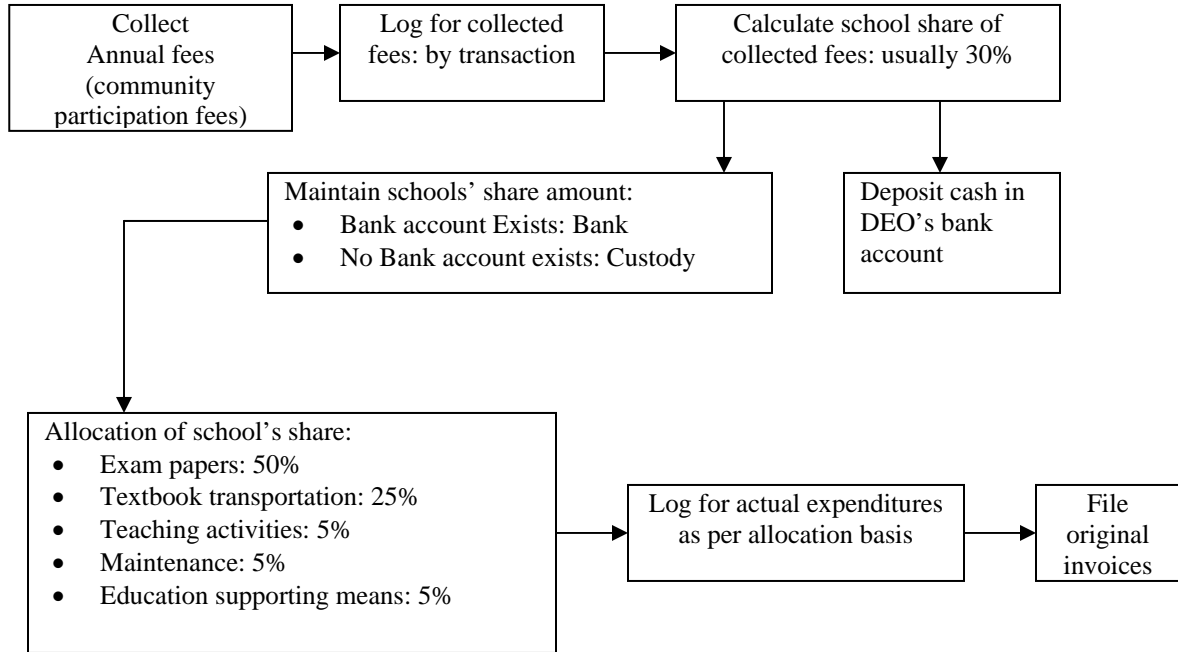


A 1-13: Wage and Salary Payment Process



In the past, school fee (parental contribution) was limited to 150 RY (less than a dollar) annually.⁶² All students had to pay this annual fee regardless of their income levels. Schools kept 30 percent of the total amount, whereas the remaining 70 percent had to be deposited to the DEO. Out of this amount, the DEO kept 6 percent and transferred the rest to the GEO. At the governorate level, 60 percent of the total amount was deposited to the maintenance and repair fund and 4 percent was kept in the GEO.

A 1-14: School Fee Collection Process



⁶² This fee was abolished by a cabinet decree in May 2006.

Annex B: Binary Probit Estimates of Teacher Absenteeism by Governorate

Table B 1: Description of Variables

Variables	Mean	Std. Dev.	Description
Dependent Variable			
<i>Absenteeism</i>	0.145	0.352	If the teacher is absent (yes=1, no=0)
Independent Variables			
Individual Characteristics			
<i>Male</i>	0.877	0.329	If a teacher is male (yes=1, no=0)
<i>Live Far</i>	0.041	0.198	Living within the district (yes=1, no=0)
<i>Original_Far</i>	0.158	0.364	Originally from this district or closer (yes=1, no=0)
<i>Fulltime</i>	0.980	0.139	If the teacher is fulltime employee (yes=1, no=0)
<i>Qualification (reference=secondary)</i>			
<i>Q_univ</i>	0.200	0.400	If the teacher has university or above qualification (yes=1, no=0)
<i>Q_postsec</i>	0.251	0.434	If the teacher has post-secondary diploma (yes=1, no=0)
<i>Q_secdiploma</i>	0.303	0.460	If the teacher has secondary diploma (yes=1, no=0)
<i>Q_notstated</i>	0.142	0.349	If the teacher has not stated (yes=1, no=0)
<i>Teachers' position (reference=other staff)</i>			
<i>Headmaster</i>	0.116	0.321	If the teacher is a headmaster (yes=1, no=0)
<i>RegularT</i>	0.778	0.416	If the teacher is a regular teacher (yes=1, no=0)
<i>OtherT</i>	0.056	0.229	If the teacher is a other teacher (yes=1, no=0)
School Characteristics			
<i>Urban</i>	0.257	0.437	If the school is in urban area (yes=1, no=0)
<i>Close_road</i>	0.591	0.492	If the school is within 1km from paved road (yes=1, no=0)
<i>SalaryPunctual</i>	0.748	0.434	If teachers in the school receive salary punctually (yes=1, no=0)
<i>PTA</i>	0.748	0.434	If the school has fathers' or mother's councils (yes=1, no=0)
<i>Insp_2mo</i>	0.485	0.500	If the school receives inspection within last 2 months (yes=1, no=0)
<i>Shift (reference=doubleshift)</i>			
<i>Morningshift</i>	0.797	0.402	If the school operates in morning shift (yes=1, no=0)
<i>Afternoonshift</i>	0.018	0.132	If the school operates in afternoon shift (yes=1, no=0)
<i>Gender of school (reference=mixed)</i>			
<i>Maleschool</i>	0.175	0.380	If the school is a boys school (yes=1, no=0)
<i>Femaleschool</i>	0.109	0.312	If the school is a girls school (yes=1, no=0)
<i>Schoolsize (reference=very small)</i>			
<i>Smallschool</i>	0.170	0.376	If the school has 6 to 10 teachers (yes=1, no=0)
<i>Mediumschool</i>	0.280	0.449	If the school has 11 to 20 teachers (yes=1, no=0)
<i>Largeschool</i>	0.472	0.499	If the school has more than 21 teachers (yes=1, no=0)
<i>Governorate (reference=saada)</i>			
<i>Hodeidah</i>	0.201	0.401	If the school is in Hodeidah (yes=1, no=0)
<i>Hadramout</i>	0.388	0.487	If the school is in Hadramout (yes=1, no=0)
<i>Shabwah</i>	0.280	0.449	If the school is in Shabwah (yes=1, no=0)

Note: Mean and standard deviation are for all samples

Table B 2: Results of probit model analyses

	4 governorates	Hodeidah	Hadramout	Shabwah	Saadah
Number of obs	2933	590	1138	821	378
Wald chi2(26)	225.5	66.2	87.2	87.2	57.2
Prob > chi2	0	0	0	0	0.0001
Pseudo R2	0.10	0.11	0.13	0.16	0.14
Log pseudolikelihood	-1090.6	-270.2	-317.0	-311.3	-129.6
Dependent Variable					
Absenteeism (1= absent, 0= present)					
Independent Variables					
Individual Characteristics					
Male	-0.04*	0.03	-0.05**	0.01	-0.3***
Live_Far	0.15***	0.25***	0.05	0.14	0.13*
Original_Far	-0.01	-0.09	0.08***	-0.05	-0.03
Fulltime	-0.12***	-0.14	-0.08**	-0.13	-0.12
<i>Qualification (reference=secondary)</i>					
Q_univ	0.06**	-0.1	0.03	0.12**	0.08
Q_postsec	0.02	-0.09	-0.01	0	0.1*
Q_sec diploma	0.01	-0.12	0	0.02	0
Q_notstated	-0.01	-0.21*	0.01	-0.04	0.2*
<i>Teachers' position (reference=other staff)</i>					
Headmaster	-0.24***	-0.33***	-0.12***	-0.25***	-0.19
RegularT	-0.22***	-0.31***	-0.12***	-0.27***	-0.1
OtherT	-0.26***	-0.24*	-0.15***	-0.29***	-0.21
School Characteristics					
Urban	-0.01	-0.02	0	-0.08*	-0.18
Close_road	0.07***	0.06	0	0.12***	-0.07*
SalaryPunctual	0.01	0.14***	-0.09**	0.03	0.07
PTA	-0.05***	-0.09**	-0.08	0.01	-0.05
Insp_2mo	-0.05***	-0.16***	-0.03*	0	0.01
<i>Shift (reference=doubleshift)</i>					
Morningshift	0.05***	0.04	0	0.08**	0.17
Afternoonshift	-0.14**	-0.37**	0.00	-0.22*	0.00
<i>Gender of school (reference=mixed)</i>					
Maleschool	-0.02	0.03	-0.02	-0.09*	-0.01
Femaleschool	-0.01	0.17**	-0.04	0.09	-0.1
<i>Schoolsize (reference=very small)</i>					
Smallschool	-0.01	0.09	0.14**	-0.09*	0
Mediumschool	-0.06**	-0.11*	0.04	-0.05	-0.06
Largeschool	-0.08***	-0.01	0.04	-0.13**	-0.02
<i>Governorate (reference=saadah)</i>					
Hodeidah	0.13***				
Hadramout	0.04				
Shabwah	0.1***				
Constant		*	*		

Note: ***, **, * respectively indicates statistical significance of 1%, 5%, 10% levels

Z-value is calculated using robust standard error

Presented are marginal effects by having all values at mean.