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Public Expenditure Tracking and Quantitative Service Delivery Surveys in Nepal's Education Sector

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South Asia Region



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US\$1 = 96 NPR

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Abbreviations

AWPBs	Annual Work Plans and Budgets
BPEP	Basic Primary Education Projects
CSSP	Community School Support Project
DEO	District Education Office
DOE	Department of Education
DPs	Development Partners
DTCO	District Treasury Comptroller Office
ECED	Early Childhood Education and Development
EFA	Education for All
EFO	Externally Funded Output
EMIS	Education Management Information System
FCGO	Financial Comptroller General Office
FM	Financial Management
FY	Financial Year
GDP	Gross Domestic Product
GON	Government of Nepal
ICAN	Institute of Chartered Accountants of Nepal
ICT	Information and Communication Technology
IT	Information Technology
MOE	Ministry of Education
MOF	Ministry of Finance
MDTF	Multi Donor Trust Fund
NCB	National Competitive Bidding
NER	Net Enrolment Rate
NLSS	Nepal Living Standards Survey
NPC	National Planning Commission
NRs	Nepalese Rupees
OAG	Office of Auditor General
PCF	Per Child Funding
PETS	Public Expenditure Tracking Survey
PFM	Public Financial Management
PPMO	Public Procurement Monitoring Office
PREM	Poverty Reduction and Economic Management

PTA	Parents Teachers Association
QSDS	Quantitative Service Delivery Survey
SESP	Secondary Education Support Program
SIP	School Improvement Plan
SMC	School Management Committee
SSRP	School Sector Reform Program
STR	Student Teacher Ratio
SWAp	Sector Wide Approach
UNESCO	United Nations Educational , Scientific and Cultural Organization
WB	World Bank

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Table of Contents

Abbreviations.....	iii
Acknowledgements.....	vii
Executive Summary.....	viii
1. Introduction.....	1
1.1. Background and rationale	1
1.2. Study objectives and coverage.....	4
2. Data and Methodology.....	6
3. Findings.....	7
3.1. Tracking Public Expenditures in the Education Sector.....	7
3.1.1. Budget process	7
3.1.2. Budgeting and funds flow process in practice at the central level	7
3.1.3. Budgeting, funds flow, and reporting in practice at the DEO level.....	8
3.1.4. Budgeting, funds flow and financial management in practice at the school level	10
3.1.5. Coverage, Timeliness and Potential Leakage in School Recurrent Funds.....	13
3.2. Quality of Service Delivery and Customer Satisfaction in school education	18
3.2.1. Teachers: front line service delivery providers.....	18
3.2.2. School Management Committees: decision-makers of service delivery.....	19
3.2.3. Parents and Community Engagement: monitors of service delivery	19
3.2.4. Client satisfaction from parents and students.....	20
3.2.5. Relationship between service delivery and student performance and client satisfaction....	21
3.3. Equity.....	23
References.....	26
Appendix 1. Summary of PETS Studies.....	28
Appendix 2a. Data and Methodology	30
Appendix 2b. Key Findings from New Era Report	35
Appendix 3. Budget Process and Fund Flow Mechanism	36
Appendix 4. Tables and Figures	39

List of Tables

Table 3.1 Actual reporting of funds received by DEOs in FY 2010/11 and FY 2011/12.....	8
Table 3.2 Social audit practice, FY 2011-12 (% of schools)	10
Table 3.3 Discrepancies between funds disbursed by DEOs and received by Schools (in per student NRs)	11
Table 3.4 Percentage of schools receiving grant on time by trimester	12
Table 3.5 Coverage and Timeliness of School Grants	14
Table 3.6 Potential Leakage in Schools Funds by Grant types.....	15
Table 3.7 Students attendance and service delivery.....	22
Table 3.8 Service delivery and customer satisfaction at the primary level.....	22
A4. Table 1: Discrepancy in financial accounts and “ghost” beneficiaries (school level)	39
A4. Table 2: Textbook and Salary as per scale.....	40
A4. Table 3: Differences in key indicators between EMIS and PETS	41
A4. Table 4: Probability of Over-reporting in EMIS compared to PETS.....	42
A4. Table 5: Teacher attendance and household’s perception.....	44
A4. Table 6: Student attendance and service delivery	45
A4. Table 7: School level performance and service delivery	47
A4. Table 8: Correlation between attendance, promotion and dropout	48
A4. Table 9: Student and parents satisfaction and service delivery.....	49
A4. Table 10: Parents and Teacher Interaction.....	51

List of Figures

Figure 1. Coverage and Potential Leakage in School Grants.....	xi
Figure 2. Student Attendance, Teacher Absenteeism, and Community Engagement.....	xiii
Figure 1.1: Nepal’s public spending on education (% of GDP), 1999 to 2010	2
Figure 1.2: Long and short routes of accountability	3
Figure 3.1 Student-teacher ratio by region.....	19
Figure 3.2 Students and Parents satisfaction on teacher (% of students or parents).....	20
Figure 3.3 Student Attendance rate by gender	21
Figure 3.4 Textbook receipt in relationship with Household’s Asset.....	24
Figure 3.5 Average teacher attendance rate in relationship with household’s asset.....	25
Figure 3.6 Likelihood of Parents and teacher interaction, in comparison to the richest asset quintile	25
A4. Figure 1 Internal Efficiency--Grade-wise Promotion and Dropout rates.....	43
A4. Figure 2 Grade-wise Internal Efficiency for Dalits and Non-Dalit students.....	43
A4. Figure 3 Dropout and Attendance in relationship with teacher attendance	49

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Executive Summary

Background

1. **During the past decade Nepal has made impressive gains in the schooling sector in terms of access, equity and completion.** Primary education Net Enrolment rate (NER) has reached 95 percent; primary cycle completion rate now stands at 77%; the proportion of out-of-school children has declined to 11%; gender parity in primary NER has already been achieved; and disparities in education access across income groups and ethnic/caste groups have decreased significantly. Much of this significant progress in educational indicators can be attributed to a series of national level programs and projects undertaken by the country in the school sector. These include the Education for All Program (EFA, 2004-09) and the ongoing School Sector Reform Program (SSRP, 2009-16), implemented by the Ministry of Education (MOE) through a Sector Wide Approach (SWAp), with financial contributions from the Government of Nepal (GON) and a group of Development Partners (DPs), including the World Bank (WB).

2. **Education is a priority sector for the Government of Nepal (GoN).** The Education Act 2001 renamed all government funded schools as community schools, empowering communities to establish and manage schools, provided they have a functional and accountable school management committee (SMC). However, financing primarily remains the government's responsibility. About 85% of the country's 35,200 schools receive government funding. The high priority accorded to education by GoN is also reflected in the large share of the government budget allocated to this sector and the rising public investment in education during the past decade. The education sector has been receiving the largest share (16%) of the government budget in recent years. Public investment in education as a share of country's GDP has increased from less than 2.9% in 1999 to over 4.7% in 2010, and represents a very significant increase in investment in absolute terms. School education, implemented through the SSRP program, receives about 86% of the government's annual education budget. The SSRP budget allocation for the Fiscal Year 2013/14 is around US\$702 million.

Objectives of the Study

3. **Given the large and increasing amount of public investment going to school education, it is important to examine the accountability in the subsector in terms of funds flow and delivery of services at the school level.** While SSRP has a well-developed Education Management Information System (EMIS) to track enrolments, physical inputs and some key outputs, the self-reported EMIS data does not include adequate information on individual teachers, class room teaching learning processes, and school management practices. Moreover, SSRP program implementation has identified a number of challenges related to financial management, governance and accountability in the areas of textbooks, teacher salaries and scholarships. To address these knowledge gaps, GON and the DPs identified the need to conduct a Public Expenditure Tracking Survey (PETS)/Quantitative Service Delivery Survey (QSDS) to

generate high quality data that will provide a better understanding of the flow of funds from the Ministry of Finance (MOF) to schools and of the services delivered to the students by the schools. The specific objectives of the Nepal PETS/QSDS study are to:

- Examine the flow of funds from the center to districts and to schools and students, in terms of the four key expenditure items, namely, teacher salaries, textbooks, scholarships and school construction/renovation grants;
- Describe financial record keeping, coverage, timeliness and potential leakages in these four types of school grants;
- Identify the possible links between key service delivery inputs and processes (teachers, school management, etc.) and outcomes as measured by client (parents/students) satisfaction; and
- Provide suggestions for improving resource flow management and reducing inefficiencies.

Data and Methodology

4. **The report primarily uses data from the PETS/QSDS survey carried out specifically for this study. The survey collected data from a nationally representative sample of 440 schools and communities from 20 districts representing all development regions and climatic belts in the country.** The school and community level survey collected information from head-teachers, teachers, school management committee members, students and their parents. The primary data analysis was complemented by a desk review of secondary sources, including Government documents on budget procedures and guidelines, and the study team's interactions with government officials, development partners and other stakeholders. The survey collected data at four different levels, namely, central level, district level, school level and the household/student levels. Accordingly, the report presents findings at these four levels. The current emphasis of SSRP is on basic education (grades 1-8), with around 80% of the SSRP budget going to this sub-sector; furthermore, allocations to four key items – teacher salaries, textbooks, scholarships and classroom construction/renovation – together constitute more than 90% of the budget. Hence, the analysis in the report pays particular attention to these four expenditure items.

Findings and Recommendations

The District Level

5. The study finds that the financial management at the district level has both strengths and weaknesses. Strengths include sufficient number of accounting staff, disbursement of funds to schools based on prescribed guidelines and information from EMIS data, submission of expenditure statements to DTCOs in a timely manner and appointment of auditors for schools. Challenges include inadequate financial record-keeping, evidence of ineligible expenditures, unreliability of school audits, and limited enforcement of compliance on audits and other FM actions for funds release. While there have been significant improvements in addressing the issue of ineligible expenditures in recent years (for example, the cumulative share of ineligible expenditures has halved between FY 2010/11 and 2011/12), there should be a continued push towards enhancing the quality of financial record keeping. Such quality enhancement can be

achieved by upgrading IT equipment and human resource expertise, using a suitable mechanism (e.g. rewards and penalty system) to enforce compliance on completion of audits, and taking actions to resolve audit and FM issues related to funds release from DTCOs to DEOs and from DEOs to schools.

School Level Financial Management

6. In terms of funds flow from DEOs to schools, the analysis compares the amount and timeliness of funds disbursed by DEOs (as reported by DEOs) with funds received by schools (as reported by schools) and finds a number of inconsistencies between the two sources, indicating a less than satisfactory level of financial record keeping at the school level and perhaps at the district level as well. Multivariate analyses of the data suggest that schools carrying out social audits and financial audits are less likely to have discrepancies in reported disbursements between DEOs and schools. While some of this can be explained by possible differences in the accounting of the transactions in terms of time period (DEOs and schools recording the same transactions in two different fiscal years), budget headings and even sources of funds received at the school level, these findings reflect poor quality of financial record keeping at the school level and perhaps also at the district level. **The study suggests several measures to improve school financial management (FM): (i) introducing incentives (monetary or otherwise) for schools and head-teachers that practice good record-keeping and that make use of bank accounts for financial transactions; and (ii) mobilizing the communities/parents to be more vigilant about accounting practices in schools and in ensuring that social audits take place regularly.**

Coverage, Timeliness and Potential Leakage in funds disbursement

7. **Coverage:** There are 30,000 community schools in the country (accounting for 85% of all schools) that receive direct salary support from the government. The survey data indicates that 76% of teachers (consisting of permanent, temporary, *rahat* and PCF¹ teachers) in the sample schools receive salary from DEOs, signifying the extensive coverage of the teacher salary component of the SSRP program. In terms of textbooks, schools receive textbook grants that are used to provide textbooks to all students in grades 1-10 free of cost, and the survey estimates that 93% of students report receiving textbooks from schools, with 87% having full sets of textbooks. SSRP finances scholarships for all girls and all Dalits enrolled in grades 1-8 in community schools, again reflecting widespread coverage of these two types of scholarships. The survey indicates that 76% of girls and 98% of Dalits receive scholarships – reflecting universal coverage for Dalits and increased coverage for girls consistent with the government’s recent policy to change the coverage of Girls Scholarship from 50% to 100%.

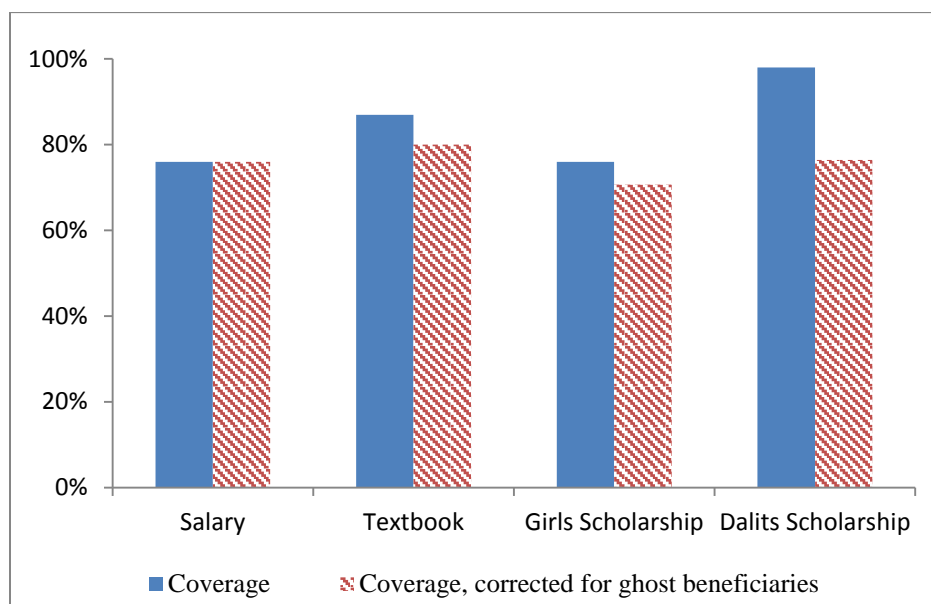
8. **Timeliness of funds disbursements:** The majority of schools receive teacher salaries within the stipulated time (in all three trimesters) reflecting timely delivery of funds. However, unlike most civil servants in the country who receive their salaries every month, most teachers (90%) receive their salary payments once every trimester (four months). In terms of scholarships,

¹ Per child financing

close to 80% of the beneficiaries receive the funds as per the disbursement schedule. The biggest challenge lies with textbook distribution – only 50% of the schools report receiving full sets of textbooks within the first two weeks of the new academic session.

9. **Potential Leakage:** Leakage of funds can occur in three main ways – the recipients do not exist and are thus “ghost” beneficiaries; intended beneficiaries (whether schools, teachers or students) are receiving less than the stipulated amounts; and the resources are going to the “incorrect” or non-intended beneficiaries. **Using data from the PETS survey and from self-reported EMIS data, the study finds that potential leakages due to “ghost” teachers are minimal but enrolment discrepancies between EMIS and PETS data warrant further examination of the effect of “ghost” enrolments on leakages in PCF based funds such as textbooks and scholarships (Figure 1). While validation of the EMIS data has been part of the SSRP program monitoring design, the Government is yet to take serious steps towards implementing this extremely important exercise.**

Figure 1: Coverage and Potential Leakage in School Grants



Source: Authors’ estimates based on PETS survey

10. Results from multivariate analyses strongly suggest that schools where SMCs and PTAs are more engaged in school activities and financing are less likely to report “ghost” students; schools conducting regular financial and social audits are less likely to have discrepancies in financial accounting and record-keeping, and are more likely to receive full sets of textbooks within the stipulated time; and community managed schools are more likely to pay their teachers full salaries (as per official scale).

Service Providers and Client Satisfaction in School education

11. The Quantitative Service Delivery Survey (QSDS) part of the PETS/QSDS survey collects information on school level service delivery inputs, processes and outcomes. Inputs include teachers, textbooks, scholarships; processes include school level management/accountability and community/parental participation; and outcomes here refer to student attendance as well as parents' and students' satisfaction ratings.

12. **Teachers:** The survey estimates that the average student-teacher ratio (STR) is 28 for basic education (grades 1-8). While this ratio is good by South Asian standards, it masks a significant variation across geographic regions (the Terai has the highest STR), reflecting challenges in teacher deployment across schools. While teacher deployment is an important issue to be explored in another study, this study looks at teacher performance in classrooms, starting from whether they actually show up to teach. **According to the survey, 14% of teachers were found to be absent on a random visit to the school. Teacher absence, relatively low compared to other countries in the region, is not the only reason for the cancellation of classes. Frequent *bandhs/strikes* associated with party politics constitute another major factor. The overall impact of teacher absence and missed classes on student attendance and learning is significant.**

13. **School Management Committees and Parent Teacher Associations (PTAs):** Nepalese schools are characterized by decentralized school management committees (SMCs), consisting of both parents and influential citizens from the local communities, with autonomy to make decisions on staffing and financial matters. According to the QSDS survey, SMCs play an integral role in school financing and service delivery (teachers, construction, textbooks, scholarships). The survey also suggests that Nepalese schools in general have a strong tradition of assigning monitoring duties to PTAs. Both SMCs and PTAs are more prevalent and more engaged in Hill/Mountain areas than in the Terai region.

14. **Client Satisfaction:** According to the survey, parents appear to be more optimistic about their children's education than the children themselves (as suggested by the finding that 87% of parents are satisfied with teacher performance compared to 68% of students). The students' perceived satisfaction level is closely matched by actual student attendance (66%). Low level of student attendance, particularly in early grades, is a challenge that merits further analysis and possibly a distinct policy/program intervention. Gender and ethnicity gaps in student attendance rates as well as in satisfaction ratings by parents and students are small.

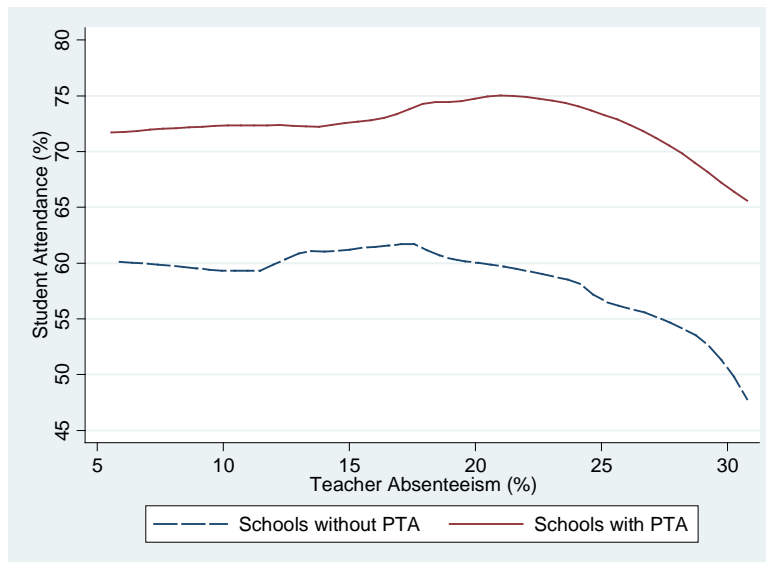
15. **Equity:** Benefit incidence analysis, using NLSS 2010 data, indicates that the poorest quintile receives the largest share (35%) of public spending in primary education. Much of this is explained by the fact that children from poorer quintiles are more likely to be enrolled in community (publicly funded) schools than those from richer quintiles. On the other hand, benefit incidence is progressively skewed towards richer quintiles at higher levels of education. While there are regional differences in the quality of service delivery, gender, income and ethnic disparities are minimal in the delivery of textbooks, scholarships and teacher absenteeism (actual or perceived). The only noticeable bias is seen in parent -teacher interactions where, as expected,

richer households are more likely to have meetings with the teachers; but there are no significant gender and ethnicity biases in parent-teacher interactions.

16. Relationship between service delivery and client satisfaction: Results from multivariate regressions suggest that smaller class size, higher teacher attendance, a full set of textbooks, scholarship receipt and presence of PTA are associated with higher student attendance. As seen in figure 2 below, the average student attendance rates are much higher in schools with PTAs, and have a negative association with teacher absenteeism. On the other hand, perceived parental satisfaction increases with the frequency of PTA meetings. Perceived student satisfaction is higher in community managed schools. While it is not possible to establish causal links between service delivery indicators and student outcomes based on these findings, the strong correlations point to the following policy suggestions :

- **Continue with the textbooks and scholarship schemes but establish a student-level database to track each beneficiary in terms of targeting (whether the recipient is an intended beneficiary), delivery (whether resources are reaching the beneficiaries in a timely manner) and monitoring (of the beneficiary’s schooling achievement);**
- **Provide teachers with appropriate incentives (e.g. in terms of deployment, salaries and career development) so that absenteeism rates are minimal;**
- **Motivate communities and PTAs to actively participate in school level activities, particularly in areas such as Terai plains where there is room for improvement; and**
- **Continue to support already engaged communities through additional resources in terms of capacity development and peer-to-peer networking.**

Figure 2: Student Attendance, Teacher Absenteeism, and Community Engagement



Source: Authors’ estimates based on PETS survey

17. Accountability framework: This PETS/QSDS study can be understood within the conceptual framework of accountability which connects the state (GON), service providers (schools and teachers), and client-citizens (students and parents) via different channels of

interaction. The short-route of accountability links parents/communities exercising *client engagement* with the service providers (schools) to oversee service delivery at the school level - i.e. teachers show up in classrooms, textbooks and scholarships are distributed to students once they arrive at the school level, and schools are appropriately managing the financial resources available to them. **As evidenced from highly engaged communities in the SMCs and PTAs in both service delivery and monitoring duties, and strong linkages between community engagement and service delivery and student outcomes (as measured by attendance), the short-route of accountability appears to be working very well in the Nepalese schooling system.**

18. On the other hand, the long route of accountability refers to expressions of *voice* from communities to the policy makers and *compact* of policy makers (central level) with service providers. Indeed, a large and increasing share of public investments in education – through increased teachers, universal access to textbooks and significant coverage of scholarships to the needy populations – is a clear indication that policy makers have responded to client demands. **However, there are a number of constraints that can be observed in the compact between the state and the schools: (i) the government is yet to satisfactorily resolve issues around the quality of printing and timely distribution of textbooks, (ii) financial management at the district and school levels is characterized by poor quality of record-keeping and auditing, and (iii) the self-reported school census data needs to be validated by an independent agency and complemented by a system of compliance monitoring (to verify whether schools and students are complying with the eligibility criteria to receive various benefits such as salary and infrastructure grants, textbooks, and scholarships).**

1. Introduction

1.1. Background and rationale

1. **During the past decade, Nepal has made impressive gains in the schooling sector in terms of access, equity and completion.** Administrative data from the government's education management information system (EMIS) indicate that the Net Enrolment rate (NER) for primary education has increased from 84 percent in 2004 to 95.5 percent in 2013; primary cycle completion rate has increased from 58% to 77.6%; and the percentage of out-of-school children among 5-12 year olds has decreased from 21% to 10.8% during the same time period (DOE, 2013). Gender parity in primary, basic and secondary NER has already been achieved. Similarly, disparities in education access across income groups and ethnic/caste groups have decreased significantly during this period. Much of this significant progress in educational indicators can be attributed to a series of national level programs and projects in the school sector undertaken by the country.

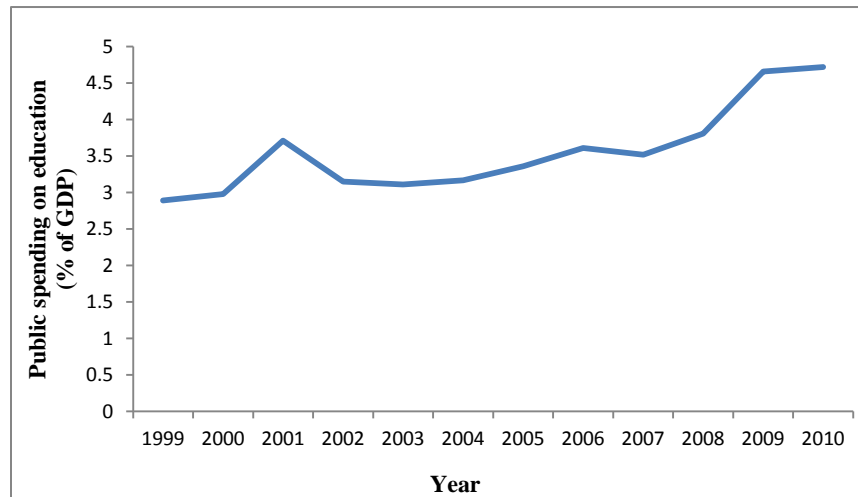
2. **Education is a priority sector for the Government of Nepal (GoN).** The government has undertaken a series of national level programs and projects in the school sector during the past two decades with the objective of enhancing equitable access to and improving the quality of education. The major programs in this series include the Basic Primary Education Projects (BPEP I, 1992-1998 and BPEP II, 1999-2004), the Community School Support Project (CSSP, 2003-2008), Secondary Education Support Program (SESP, 2003-2009), Education For All Program (EFA, 2004-2009), and the ongoing School Sector Reform Program (SSRP, 2009-2016). SSRP is an ambitious medium term program that covers the entire school education sector (grades 1-12) as well as early childhood education and development (ECED) and non-formal education. It caters to the needs of approximately 7.3 million students in around 30,000 community and religious schools across the country. Supported jointly by GoN and a group of Development Partners (DPs), this program is expected to cost around US\$ 4.04 billion over the seven year program period (MOE 2009).

3. **The high priority accorded to education by GoN is also reflected in the large share of the government budget allocated to this sector and the rising public investment in education during the past decade.** The education sector has been receiving the largest share (around 16 %) of the government budget in recent years. Furthermore, as shown in Figure 1.1, public investment in education as a fraction of GDP has increased from less than 2.9% in 1999 to over 4.7% in 2010. Considering that Nepal's GDP has been growing at around 4.4% per year during this period, the increasing share of education in GDP represents a very significant increase in investments in absolute terms. As around 86% of the government's education budget is allocated to school education each year, most of the increasing investment in education has been going to the school education subsector. The SSRP budget allocation for the Fiscal Year 2013/14 is around US\$702 million.

4. **Given the large and increasing amount of public investment going to school education, the government needs to be especially vigilant in ensuring accountability in this subsector.** It is important for the government to ensure that the allocated budget reaches the service points

(schools) in a timely manner and that the resources available to the schools are utilized effectively and as intended. Furthermore, the quality of services delivered through the available resources also needs to be maximized. There is a growing concern that even while public investment in education is increasing, the public education system has not been able to improve the quality of services delivered to the beneficiaries (students), and ensure the timely delivery and effective utilization of the resources allocated to schools.

Figure 1.1: Nepal’s public spending on education (% of GDP), 1999 to 2010



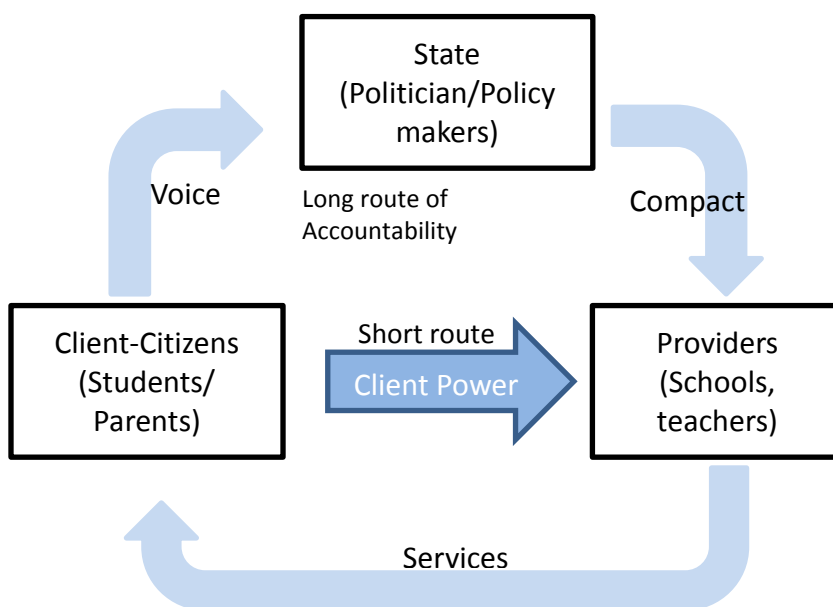
Source: World Bank (2010)

5. A prerequisite for understanding and addressing accountability issues in the subsector is the availability of high quality data on funds flows to schools, resource utilization, and key outputs of schools. In order to track the enrolment of students, physical inputs to schools, and some key output indicators at the school level, the Department of Education (DOE) has developed a comprehensive Education Management Information System (EMIS) that captures self-reported school-level data. However, as public schools receive their annual budgets mostly on the basis of per-capita funding, there is an inherent incentive for them to inflate the student enrolment figures submitted to the EMIS. Moreover, the self-reported EMIS data do not include adequate information on individual teachers, class room teaching learning processes, and school management practices.. SSRP program implementation, in particular, has identified a number of challenges related to financial management, governance and accountability in the areas of textbooks, teacher salaries and scholarships. In view of these concerns, MOE and the World Bank have recognized the need to conduct a Public Expenditure Tracking Survey (PETS)/Quantitative Service Delivery Survey (QSDS) to generate high quality data that will provide a better understanding of the flow of funds from the Ministry of Finance (MOF) to schools and of the services delivered to the students by the schools.

6. The broad purpose of PETS /QSDS is to evaluate accountability of public service provision and assess individual channels through which the accountability can be achieved. The current PETS/QSDS study can be understood within the conceptual framework illustrated in

Figures 1.2, which connects the state (GON), service providers (schools and teachers), and client-citizens (students and parents) via different channels of interaction. In order to ensure accountability, the four major actors in the education system – students/parents, schools, teachers, and GON – should closely interact through expressions of power, long term institutional contracts, and dialog². Accountability can be achieved through transparent and symmetric interactions between students/parents and schools/teachers (short-route), and through students/parents’ voice and the government’s compact with schools/teachers (long route). Any weak links among these four actors can result in failure of optimal service delivery (World Bank, 2004). PETS/QSDS studies in the education sector examine these links, paying special attention to issues concerning the efficiency of frontline service delivery and the flow of funds and resources from the state to the service providers. Many of these studies seek to diagnose the “short-route of accountability” by analysing the institutional structures in place for facilitating interactions between clients and providers, client engagement in the schooling process, and audit practices. Some of them also examine the links between accountability and educational outcomes.

Figure 1.2: Long and short routes of accountability



Source: World Bank (2004)

7. PETS/QSDS studies conducted in different countries in the past have examined a variety of accountability issues, including issues related to funds leakage, non-existent or ghost workers, delays in service delivery, teacher absenteeism, information problems, and financial record keeping. For example, a number of these studies have identified public funds

²For example, citizen-clients (students and parents) express their *voice* to the state (politicians/policymakers); the state has *compacts* with organizational providers (schools, local education offices); organizational providers *manage* frontline providers (teachers); and citizen-clients exercise *client power* in their interactions with organizational and frontline service providers. Thus while service providers are accountable to the state, both the state and service providers are accountable to client-citizens through the latter’s expression of *voice* and *client power*.

leakage as a major issue in the education sector (e.g., in Uganda, Ghana, Zambia, and Chad³). Absenteeism among frontline service providers is another phenomenon of concern documented by these studies in some countries (e.g., Uganda, Zambia, Kenya, Honduras). Similarly, late payment of teacher salaries has been observed in Lao, Uganda, Tanzania, and Rwanda, and delays in funds release seem to be a problem in many countries. Delays in the delivery of learning materials (textbooks) is a key service delivery issue identified by QSDS in Namibia, Niger and Tanzania. Recent studies on Honduras, Niger and Afghanistan list inefficient record keeping as a key concern in the education sector. A summary of some of these studies is provided in Table A.1 in the appendix.

1.2. Study objectives and coverage

8. Most of the public resources allocated to the school education sector are spent on a few key items. Each year, the capital and recurrent budgets typically comprise 10% and 90%, respectively, of the total SSRP education sector budget. The bulk of the capital budget is spent on classroom/school construction and renovation while most of the recurrent budget is used to pay for teacher salaries, textbooks⁴, and scholarships. Allocations to these four areas-- teacher salaries, textbooks, scholarships, and construction/renovation—constitute over 80% of the total budget for the school sector. Hence, particular attention needs to be given to expenditures in these areas at the school level when discussing public investments in the education sector.

9. Drawing upon the approaches and findings in the studies discussed above, this PETS/QSDS examines many of the same issues encountered in other countries. It aims to assess accountability in the school education sector by tracking the flow of public resources from the center to the school level and by analyzing the inefficiencies in the delivery of education services to students. The specific objectives of the study are to:

- a. Examine the flow of funds from the center to districts and to schools and students, in terms of the four key expenditure items, namely, teacher salaries, textbooks, scholarships and school construction/renovation grants;
- b. Describe financial record keeping, coverage, timeliness and potential leakages in these four types of school grants;
- c. Identify the possible links between key service delivery inputs and processes (teachers, school management, etc.) and outcomes as measured by client (parents/students) satisfaction; and
- d. Provide suggestions for improving resource flow management and reducing inefficiencies.

10. The analyses in this report draw upon two types of information sources. The first source includes primary survey data collected specifically for this study. The second source

³ See Reinikka and Smith (2004); Gauthier (2006)

⁴ The Government of Nepal has a policy commitment to provide a full set of textbooks to all basic level (grades 1-8) students within the first two weeks of each academic year. However, there are significant implementation issues, particularly related to textbook printing, distribution and delivery at the school level. Textbook printing and distribution is currently administered by both public (by Janak Shikshya Samagiri Kendra (JSSK), the government-owned publishing house that has a monopoly in the printing of school textbooks for the three of the five development regions) and private operators (Far-western region).

comprises of secondary data extracted from various publications and reports. The core analytical work in the report is based on the survey data.

11. **This study has certain limitations.** First, it focuses on basic education (grades 1-8), and is, therefore, not designed to be a comprehensive PETS/QSDS of the entire school education sector. Second, since the survey for this study only includes students from grade 3, 5 and 8, the student responses analyzed here might not necessarily represent the views of all students in the basic grades. Third, the analyses on the links between school characteristics and service delivery, and service delivery and educational outcomes are not meant to establish causal relationships. They are correlational analyses that can, at most, indicate the possibility of causal links between the variables under scrutiny. Finally, the average quality of financial record-keeping and some missing data on the financial matters, particularly at the school level, means that the findings in this study have some limitations.

12. **The rest of the report is organized as follows.** Section 2 describes the study methodology, focusing on the sampling approach used in the survey. Section 3 presents the findings of the study. It first discusses findings related to the flow of funds from the government to schools and students. This is followed by a discussion on the quality of service delivery, the relationship between service delivery and educational outcomes, beneficiary satisfaction and equity in service delivery.

2. Data and Methodology

13. **The primary data used in this study comes from a dedicated survey of schools, families, relevant government officials, and other stakeholders. The bulk of the data for the study was collected from a nationally representative sample of schools, and students studying in grades 3, 5 and 8 in these schools.** In addition, data were also collected from the families of these students. The primary methods of data collection included direct observations and individual interviews. Focus group discussions with relevant stakeholders were also conducted in each sample district to gain deeper insights into factors affecting service delivery at the school level. The survey was conducted in two rounds—first between August and October, 2012 and then in December, 2012.

14. **The survey followed a two-stage stratified random sampling design.** In the first stage, a sample of 20 districts was selected from nine strata representing Nepal's all three climatic belts and five development regions. The second stage involved the selection of 440 schools from these 20 sample districts. In each sample school, teachers, SMC members, students, and families of students were selected to participate in the survey. The questionnaires used in the survey primarily targeted three categories of stakeholders: school-level stakeholders (teachers, SMC members, households, and students), district level government officials, and central level government officials. The survey design and methodology is further elaborated in **Appendix 2a**. The survey implementation details are described in the New Era Report (New Era, 2013). Key findings from the New Era Report are summarized in **Appendix 2b**.

15. **The primary data analysis was complemented by a desk review of secondary sources** to obtain information on the budgeting process and the funds flow mechanism in Nepal's education sector, and provide insights into the various stages of the survey design. The main documents for this purpose included Government documents on budget procedures and guidelines, Education Acts and Regulations, Procurement Act and Regulations, a National Planning Commission study on funds flow to Primary Schools (2012), New Era's descriptive report on the PETS/QSDS survey (2013), and the team's interactions with officials of MOE and the Department of Education (DOE). Other relevant information and clarifications on these topics were obtained through discussions with GoN officials and the World Bank staff from the financial management sector and poverty reduction and economic management sectors.

16. Data from the PETS/QSDS survey indicates that the majority of schools have formed School Management Committee (96%); and many have Parents-Teacher Associations (82%) and practice social audit (87%). 42 % of teachers are female, 32 % are permanent teachers and 20% are community recruited teachers. In terms of school facility, 90% of schools have toilets within school premises and 71% have source for drinking water.

17. The survey collected data at four different levels and thus the report presents findings at these four levels: central level, district level, school level and at the household/student level. However, given the current emphasis of SSRP on basic education (grades 1-8), with more than 80% of the SSRP budget going to this sub-sector and that the four key items – teacher salaries, textbooks, scholarships and classroom construction/renovation – together constitute more than 90% of the budget, the analysis in the report pays particular attention to these expenditure items.

3. Findings

3.1. Tracking Public Expenditures in the Education Sector

3.1.1. Budget process

18. **The budget process in Nepal can be viewed as a cycle with three main stages, namely, budget planning and formulation, budget approval, and budget execution and monitoring.** Budget Planning and formulation, budget approval and monitoring through audits take places at the ministry level with the help of subordinate units. Budget execution and monitoring of activities take place at the various cost centers (MOF, 2011). The budget preparation process for each fiscal year typically starts in November and takes around six months to complete. The National Planning Commission (NPC) and the Ministry of Finance (MoF) provide guidelines and the budget ceiling for each line ministry for the next fiscal year. The Ministry of Education (MOE) requests its subordinate units to submit their Annual Work Plans and Budgets (AWPBs). The consolidated AWPB, with estimated capital and recurrent expenditures, is submitted to NPC/MOF in mid-March. The draft final budget, after several rounds of discussions/negotiations between MOE and NPC/MOF, is subsequently submitted to the Cabinet for approval in the third week of May, and to the Parliament for final approval at the end of June.

19. After the full budget is passed, MOE receives a new spending authorization, and issues its own authorization letters to its subordinate units, including the Department of Education (DOE), within two weeks. DOE itself is expected to send similar authorizations to DEOs within another two weeks. During the month of August, DEOs request the District Treasury Comptroller's Offices (DTCOs) to release the budgets for their districts. DTCOs release the district budgets to DEOs after examining the request documents. After receiving the funds from the DTCOs, DEOs release the budget to schools within a week upon approval by the school supervision department. At the school level, the budget for salary payments and other grants is supposed to be released in all three trimesters, scholarship and textbooks are supposed to be released to schools in the second trimester and most of the capital budget in second and third trimesters. The budget process, the funds flow mechanism and the prescribed schedule is elaborated in **Appendix 3**.

3.1.2. Budgeting and funds flow process in practice at the central level

20. **While no significant delays have been observed in the budget planning and formulation process, delays in budget approval have been a problem.** The approval of the full budget was delayed by more than four months in FY 2010/11 and by nearly two months in FY 2011/12, mainly due to disagreements among political parties in the Parliament. These delays have negatively affected the timing of budget release to subordinate units of MOE.

21. **Despite delays in passing the full budget, the government has been able to issue spending authorizations to ministries on time.** In both years of the survey, MOF sent the spending authorization letter to MOE on the first day of the fiscal year. However, because of the delay in passing the full budget, MOF was initially able to authorize MOE to spend only up to one-third of the total expenditure incurred in preceding fiscal year. Hence, in order to help meet

shortfalls in regular recurrent expenditures, MOF later issued additional letters (3 each in each fiscal year) authorizing MOE to spend additional funds (New ERA, 2013).

22. In spite of delays in issuing spending authorizations from MOE to DOE and its subordinate units, the DEOs receive spending authorization for 80 to 90 percent of their annual budgets within the first two trimesters. The spending authorization from MOE to DOE should normally be sent within two weeks of the start of the new fiscal year. In fiscal year 2010/11, the authorization letter from MOE was issued only after four months due to the delay in passing of full budget. In FY 2011/12, however, DOE received the authorization from MOE on time. DOE, in turn, should provide spending authorizations to the DEOs within the first month of the new fiscal year; but delays were observed in both years. The main reasons for these delays were the delays in passing the full budget and getting the AWPB approved by NPC. Despite these problems at the center, the DEOs received spending authorizations for 80 to 90 percent of their annual budgets within the first two trimesters (first eight months) (New ERA, 2013). Given the critical importance of timely budget flows to program implementation and development outcomes, the report recommends that the MOE and DOE complete their negotiations with the National Planning Commission (NPC) and finalize the consolidated AWPB well in advance of the spending authorization from MOF to MOE.

3.1.3. Budgeting, funds flow, and reporting in practice at the DEO level

23. One of the strengths of the SSRP budget process is the bottom-up planning and preparation phase whereby DEOs make budget proposals through their district level AWBPs, involving district education officers, accountants and planning officers taking into account the school improvement plans of the schools in their respective districts. Normally, about 80% to 90% of the requested district budgets get approved by DOE. Similarly, the survey data suggest that actual funds receipt at the DEO level is in line with the budget release schedule – teacher and staff salaries are released each trimester, textbooks and scholarships in the second trimester and building renovation funds in second and third trimester of each fiscal year (see Table 3.1 for a summary of the timing of funds receipt by DEOs). However, a significant portion of the capital budgets are received only towards the end of the third trimester, leaving very little time for schools to make any meaningful plans for school construction/renovation activities.

Table 3.1: Actual reporting of funds received by DEOs in FY 2010/11 and FY 2011/12

	FY 2010/11		FY 2011/12	
	Recurrent	Capital	Recurrent	Capital
Average total budget received by DEOs (in million NRs)	456	61.6	601	61.7
Average Sum of DEO trimester budgets (in million NRs)*	419	55.9	557	58.8
First trimester (%)	27.5	4.9	30.3	5.4
Second trimester (%)	37.1	35.0	33.2	16.7
Third trimester (%)	33.4	60.1	36.5	77.9
Revised (%)	2.0	0.0	0.0	0.0
Total (%)	100%	100%	100%	100%

Source : Authors' estimates using survey data, Note: *Sum of the budgets received in the 3 trimesters.

24. **The financial management at the district level has both strengths and weaknesses. Achievements include sufficient number of accounting staff, disbursement of funds to schools based on prescribed guidelines and information from designated data sources, submission of expenditure statements to DTCOs in a timely manner and appointment of auditors for schools. Challenges include inadequate financial record-keeping, evidence of ineligible expenditures, reliability of school audits and enforcement of compliance on audits and other FM actions for funds release.** DEOs have sufficient number of accounting staff to prepare books of accounts and ledgers. The survey estimates that 94% of posts sanctioned for accountants are filled. Importantly, most of DEOs reported following the disbursement guidelines for capital and recurrent grants to schools. Disbursement of capital grants goes through several steps including selection of beneficiary schools, signing of agreements with schools, and monitoring of construction work following the guidelines. Each year, recurrent grants are supposed to be disbursed based on the previous year's data reported by MoE's Education Management Information System (EMIS). On the other hand, capital grants must be disbursed using an index developed by DoE (DOE, 2103). It was found that 90% of DEOs disbursed recurrent grants based on the data in EMIS Flash Reports. In the case of capital grants, while 85% of DEOs selected schools for capital grants using the index developed by DOE, the remaining 15% based their selections on reports submitted by sub-engineers. Once the schools had been selected, 90% of DEOs released the first tranche of grants to schools upon signing agreements with them, and released the subsequent tranches after monitoring the progress. All DEOs received completion reports from the majority of schools in their districts. Furthermore, 80% of them received work completion reports from *all* schools in their districts.

25. According to the survey, all DEOs submitted the statement of expenditure to DTCOs promptly at the end of every month, enabling timely recording of expenditure. This is critical since DTCOs are entrusted with the release of budgets to DEOs as per the authorizations received from MOE and they are required to submit financial statements to FCGO every month, update their books of accounts monthly, and have their accounts audited by OAG annually. They are also required to collect periodic statements (reports) from DEOs and prepare reports on expenditures of DEOs (FCGO, 2013). While most of the surveyed DTCOs were found to have complied with the requirements for annual audits and submission of financial statements, 4 out of 10 DTCOs did not have a record of expected revenues and estimated cash needs in FY 2011/12. In terms of audits, 85% of DEOs have appointed auditors for schools and among those, all have reviewed the school audit reports and suggested a set of actions to resolve the audit observations. Around 50% of DEOs indicate that, based on their analyses of school audit reports, they do not believe school audits are reliable.

26. Moreover, insufficient technical expertise and IT equipment has hindered the implementation of the prescribed Single Treasury Accounting System at the district level. The resulting inadequate financial record keeping at DEOs makes it difficult for all key stakeholders (DEOs, DTCOs, DOE and other monitors including the periodic PETS surveys such as this) to collect relevant information on financial transactions and funds flow. A clear indication of inefficient accounting and financial records keeping is seen from the finding that 3 out of 4 DEOs have incidence of ineligible expenditures as pointed by the Office of the Auditor General (OAG). The total ineligible expenditure amount constitutes about 7 percent of the total annual budget receipts by DEOs. While this is a significant amount, it should be noted that there has

been progress in the area in the last few years. As documented in the SSRP Joint Annual Review (JAR) Aide Memoire of May 2013 (World Bank, 2013), the share of cumulative ineligible expenses (as percent of total SSRP budget) has almost halved between FY2010/11 to FY2011/12.

27. While disbursement of grants from DEOs to schools is supposed to be linked to the completion of school social audits, and the vast majority of schools do conduct these audits (as seen in table 3.2 below), schools not fulfilling this requirement still continue to receive grants. Schools are required to conduct social audits every year and submit a copy of the social audit report to DEOs. Those failing to do this should not be eligible to receive grants for the next trimester. 86 percent of schools carried out social audits for FY 2011/12. However, DEOs did not withhold allocated grants to the 14 percent of schools that did not conduct social audits.

Table 3.2 Social audit practice, FY 2011-12 (% of schools)

	Reported by schools	Reported by SMCs
Have social audit practice	86.7	84.5
Have social audit guideline of DOE	59.4	79.8
Know social audit guideline of DOE	78.2	29.9
Follow DOE guideline	83.8	77.2
Held social audit last year	85.7	90.5

Source : Authors' estimates using survey data

3.1.4. Budgeting, funds flow and financial management in practice at the school level

Budget plan and release

28. **As mentioned before, schools are the primary recipients of SSRP budget, with over 90% of total expenditures incurred at the school level.** DEOs allocate and disburse recurrent and capital funds to schools based upon prescribed guidelines and on data from EMIS flash reports. Payments for salaries, scholarships, and textbooks comprise the bulk of recurrent expenditures⁵ while the capital budget primarily finances classroom/school construction. Together, salary, scholarship, textbooks and construction account for more than 80% of school grants from DEOs. Hence, the discussion below focuses on flow of funds at the facility level and on these expenditure items.

29. **In terms of funds flow from DEOs to schools, the analysis compares the amount and timeliness of funds disbursed by DEOs (as reported by DEOs) with funds received by schools (as reported by schools). The survey data points towards a number of inconsistencies between the two sources, indicating a less than satisfactory level of financial record keeping at the school level and perhaps at the district level as well.** For example, schools reported receiving 13% more than the total amount reported by the DEOs as being disbursed to schools (as shown in table 3.3). However, for the four expenditure headings - salary,

⁵ The recurrent budget also covers mid-day meals, grants for conducting financial and social audits, expenses for formulating School Improvement Plans (SIPs), grants for minor maintenance, exposure visits, allowances for school uniforms, funds for accountants and support staff and stationeries etc.

scholarship, textbooks and construction, schools reported receiving 3% less than the amount reported by the DEOs. There is also a large variation across schools and across expenditure headings. Multivariate analysis suggests that schools carrying out social audits and financial audits are less likely to have discrepancies in reported disbursements between DEOs and schools. More specifically, schools conducting social audits have a lower probability of reporting receiving less than the amounts reported disbursed by the DEOs (see **Appendix 4** table 1 for regression results).

Table 3.3 Discrepancies between funds disbursed by DEOs and received by Schools (in per student NRs)

	Total	Sum of four categories	Salary	Scholarship	Textbooks	Construction
Amount disbursed by DEOs	7,991	6,904	5,433	272	216	982
Amount received by schools	9,069	6,704	5,731	286	228	463
Difference between disbursed and received	-1,078	200	-298	-14	-12	519
% discrepancy	-12%	3%	-5%	-5%	-5%	112%
Amount spent by schools	8,558	7,323	6,094	226	221	786
Difference between received and spent	511	-619	-363	60	7	-323
% discrepancy	6%	-9%	-6%	21%	3%	-70%

Source: Authors' estimates using survey data

Note: A negative number indicates that the average amount received by schools is greater than the average amount disbursed by DEOs; or amount spent by schools is greater than the amount school received. 86 percent of funds received by schools from DEO are for these four categories – salary, scholarship, textbooks, and construction.

30. The inadequacy in school level financial record-keeping is also evident from the mismatch between amounts received and spent by schools. The average total expenditure is smaller than the average total income; however, teacher salaries and construction expenditures are higher than their earmarked received amounts. While some of this can be explained by possible differences in accounting of the transactions both in terms of time period (DEO and School recording the same transaction in two different fiscal years since much of the third trimester budget is released in the last month of the fiscal year), budget headings (DEO and the school recording a transaction under a different budget code/heading) and even sources of funds received at the school level (schools not keeping an accurate record of the sources of funding), these findings reflect poor quality of financial record keeping at the school level and perhaps at the district level as well. It should be noted that triangulation of information from DOE and DEO, and between DEO and schools (i.e. cross-checking information from DEO and school on the same financial transaction) would help resolve some of these inconsistencies.

31. The survey data indicates that the majority of schools receive salaries within the stipulated time; however, delays are observed in the delivery of capital grants for school construction. Survey findings on the timings of funds receipt by schools are summarized in Table 3.4 below. In both fiscal years under scrutiny, salaries were received on time by the vast majority of schools in all three trimesters; in fact, 100% of the schools received salaries on time

in the third trimester. As mentioned earlier, the practice of disbursing most of the construction funds in the last trimester of the fiscal year makes it difficult for schools to properly plan and execute their construction activities.

Table 3.4 Percentage of schools receiving grant on time by trimester

	FY 2010/11			FY 2011/12		
	First	Second	Third	First	Second	Third
<i>A. Recurrent Budget Grant</i>						
Salary	97.8	88.1	100	96.5	88.8	100
<i>B. Capital Budget Grant</i>						
Construction	75.3	14.7	100	72.2	58	100

Source: Authors' estimates using survey data

Note: 'On time' means receipt of fund is within the month stipulated by National Planning Commission and reported in New ERA (2013).

Financial management at the school level

32. FM reporting guidelines require that schools maintain a ledger for recording all monetary transactions by account, conduct financial audits each year, and submit monthly income/expenditure statements as well as annual audit reports to DEOs. The head teacher is ultimately accountable for actions related to school finances. All the accounts of the school require two signatories, one of which is from the School Management Committee (SMC) other than the head teacher, to properly manage funds and prevent unwanted transactions. Schools are expected to reconcile the accounts every month. As a public entity, a school needs to manage its own assets. The details of assets belonging to the school need to be kept in a ledger and submitted to the DEO where assets of all schools in the district are recorded. All schools are required to conduct financial audits annually by auditors certified by the Institute of Chartered Accountants of Nepal (ICAN).

33. Survey data show that the head teacher maintained the accounts in 78% of the sample schools (including 91% of primary schools in the sample), only 14% of the sampled schools had designated accounting staff and only 2% of the schools were using accounting software. The availability of qualified human resources for maintaining school accounts is an issue of concern, especially in basic schools. In terms of reporting, all schools report to have prepared and publicly disclosed the financial statements. The quality of these financial statements, not surprisingly, is of poor quality given the lack of trained and dedicated human resources and an electronic system of record keeping. While teacher salary payments is an obvious candidate for the use of banking system to improve reconciliation, only 5% of the schools pay salaries to teachers through bank accounts, and only 8% of the schools reconcile their bank account every month. While some schools reconcile their bank accounts quarterly, around 6% of the schools never reconcile their bank accounts. In order to improve financial management at the school level, there is a need for DEOs to link the release of funds with the submission of audit reports.

34. Some possible areas of improvement include: (i) provision of technical assistance⁶ in the form of outsourced accounting firm to a primary/basic school so that the school can maintain book of accounts as prescribed in the Education Regulations and School Accounting Manual; (ii) mandating the use of bank accounts for all school financial transactions related to incomes and expenditures; (iii) conditioning funds release from DEOs to schools on the schools' submitting satisfactory audit reports; (iv) mobilizing the communities/parents to be more vigilant about schools accounting practices and in ensuring that social audits take place regularly; and (v) introducing incentives (monetary or otherwise) to those schools and head-teachers that perform well in the school's financial management aspects, including record-keeping practices.

Procurement

35. Schools are expected to follow the Public Procurement Act (2006) and Public Procurement Regulation (2007) while procuring goods, works and services, and use procurement methods consistent with the size of the procurements and size thresholds applicable to the different methods (PPMO 2007). Schools need to prepare relevant specifications, plans, drawings, designs, special requirements or other descriptions prior to procuring goods, construction works or services (DOE, 2013). Similarly, schools need to procure consultancy services by requesting competitive proposals and through direct negotiations. The survey findings suggest among the schools that received capital grants for construction and renovation (75% received the grants), 9 out of 10 schools used procurement methods consistent with the government guidelines; 7 out of 10 schools followed DEO design guidelines; and similar share completed the work on time.

3.1.5. Coverage, Timeliness and Potential Leakage in School Recurrent Funds

36. As mentioned earlier, teacher salaries, student textbooks and scholarships together constitute 85% of the school grants. The discussion below analyses the extent of beneficiary coverage, timeliness of funds disbursement and leakage of funds in the disbursement of three major grants –scholarships, textbooks, and salaries. Coverage here refers to share of schools benefiting from teacher salary support, and the share of targeted students receiving textbooks and scholarships. Timeliness measures the percentage of schools, teachers or students that receive the respective grants within stipulated time. Leakage of funds can occur in three main ways – the recipients do not exist and are thus “ghost” beneficiaries; intended beneficiaries (whether schools, teachers or students) are receiving less than the stipulated amounts; and the resources are going to the “incorrect” or non-intended beneficiaries.

37. **Coverage:** There are 30,000 community schools in the country (accounting for 85% of all schools) that receive direct salary support from the government. The survey data indicates that 76% of teachers (consisting of permanent teachers, temporary teachers, *rahat* teachers and PCF teachers) in the sample schools receive salary from DEOs, signifying an extensive coverage of the teacher salary component of the SSRP program (table 3.5). In terms of textbooks, schools receive textbook grants that are used to provide textbooks to all students in grades 1-10 free of

⁶ The technical assistance/accounting firm can visit a school every month to ensure that book of accounts are kept as per prescribed Manual. This would be a cost-effective and more transparent method (compared to hiring additional staff for accounts section) to improve school financial accounting.

cost, and survey estimates that 93% of students report receiving textbooks from schools, with 87% having full sets of textbooks. SSRP finances provision of scholarships to all girls and all dalits enrolled in grades 1-8 in community schools, again reflecting widespread coverage of these two types of scholarships⁷. School reported data from the PETS/QSDS survey, however, indicates that while 98% of dalits receive Dalit scholarships only 76% of girls receive Girls scholarships. Lower than full coverage for Girls scholarships is explained by the fact that some girls may be receiving other types of scholarships such as that designated for Dalits and not counted in the Girls as they are not eligible for multiple types. For improved monitoring of the coverage of these scholarships, SSRP should develop and maintain a student-level database to track each scholarship beneficiary from the initial selection phase (where appropriate targeting criteria are used to select girls, dalits or the poor students) to schooling achievement (promotion to higher grades) and continued compliance with the eligibility criteria (such as the requirement to attend a minimum percentage of classes in a year).

Table 3.5 Coverage and Timeliness of School Grants

	Coverage	Timeliness of delivery
Teacher Salary Support (% of teachers paid from DEO grants)	76%	96%
Girls Scholarship (% of all girls)	76%	79%
Dalits Scholarship (% of all dalit students)	98%	79%
Textbooks (% with full sets of textbooks)	87%	50%

Source: Authors' estimates using survey data

38. Timeliness of funds disbursements: As reported earlier in table 3.4, the majority of schools receive teacher salaries within the stipulated time (in all three trimesters) reflecting timely delivery of funds. The fact that most teachers (90%) receive their salary payments once every trimester (four months), on the other hand, is a practice not consistent with how most civil servants in the country get their salaries every month. In terms of scholarships, close to 80% beneficiaries receive the funds as per disbursement schedule (table 3.5). The biggest challenge lies with textbook distribution – only 50% of the schools report receiving full sets of textbooks within the first two weeks⁸ of the new academic session.

39. Potential Leakages: As mentioned above, the first type of leakage (type I) can occur if the funds are going to “ghost” (non-existent) recipients. To look at the extent of this “ghost” benefits, the report compares self-reported school census (EMIS) data to the PETS survey data on student enrollments and teacher positions (Box 1 below provides a comparison of EMIS data vis-à-vis PETS⁹ survey data) and finds that there is 10% under-reporting in the number of teachers but 8% inflated enrolments in the EMIS data (table 3.6). The finding clearly indicates that while there might some unrecorded teachers (are teaching at schools according to PETS but are not recorded in EMIS formally), there are no “ghost” teachers and type I leakage is negligible

⁷ Out of sixteen different types of scholarships provided by DOE, the Girls scholarship and Dalit scholarship are the most important because of their extensive coverage.

⁸ According to the SSRP guidelines, students are expected to receive textbooks within two weeks of any given academic year.

⁹ PETS survey records both headcounts (enumerators going around classrooms) and attendance registers to report the number of teachers in a sample school.

in the teacher salary component. On the other hand, it is plausible that textbooks and other PCF (per child funding) grants were received for 108 students when it should have been for 100 students. The extent of type I leakage in textbooks associated with “ghost” beneficiaries varies across regions – with schools in Terai over-reporting enrolments by 10%, compared to 6% for Hills and mountains together. On scholarships, there is evidence that schools tend to over-report the number of girl beneficiaries by 7% and dalit beneficiaries by 22%, again leading to additional funds receipts¹⁰. As for regional variation, over-reporting of girls beneficiaries is higher in Terai and that for dalit beneficiaries is higher in Hills/Mountains. It should be noted that these additional scholarship resources received by the schools do not automatically imply “leakages” in the strict sense of funds misuse or diversion since they may be used to spread the resources to other disadvantaged students (as anecdotal evidence has suggested) or used for other school improvement activities, but it does however mean that schools are not complying with the grant eligibility guidelines. **The enrolment discrepancies between EMIS and PETS data warrant further examination of the effect of “ghost” enrolments on leakages in PCF based funds (textbooks, scholarships and PCF teacher salaries). While validation of the EMIS data has been part of the SSRP program monitoring design, the Government is yet to take serious steps towards implementing this extremely important exercise.**

40. The second type of leakage (type II) is said to occur when intended beneficiaries are not receiving the full amount of benefits. 94% of teachers report receiving salaries as per the official scale –the remaining 6% teachers that do not receive the full-scale salary are either community-funded or PCF-funded and schools are likely to spread the available but limited resources. This suggests that type II leakage in teacher salaries is also very small if any. However, 12% of the students report having to pay for these textbooks, indicating potential funds leakage (since all students are eligible for textbooks free of cost). Furthermore, compared to the stipulated scholarship rate of NRs 400-450 per year¹¹, the average amount received by girls and Dalits were NRs 380 and NRs 405, respectively. These findings together indicate some form of leakage, implying the need for further investigation to quantify the extent of such leakage. The third type of leakage (type III) measures the extent to which funds go to wrong beneficiaries (such as non-dalit boys in the case of scholarships) - the survey suggests that this type is negligible since less than 1% of unintended beneficiary students are receiving the benefits.

Table 3.6 Potential Leakage in Schools Funds by Grant types

	Type I - Ghost Beneficiaries (per 100 real beneficiaries)	Type II – Share of full benefits not reaching the intended recipients.
Salary	0	6
Girls Scholarships	7	5
Dalits Scholarships	22	10
Textbooks	8	12

Source: Authors’ estimates using survey data

¹⁰ Data from the survey indicates that 21% of schools reported higher number of girls scholarship beneficiaries than total girls enrolments, and 47% of schools reported the higher numbers for dalits. Average discrepancy for such schools is 29 for girls and 16 for dalits – effectively resulting in 107 girl beneficiaries for 100 girls enrolled and 122 dalit beneficiaries for 100 dalits enrolled in all schools. It is noted that average girls and dalits enrolment are 87 and 34 respectively.

¹¹ Rates vary across regions and within categories. For details, see DOE (2011) on “Effectiveness of Girls Scholarships Program”.

Box 1. Comparison of EMIS and PETS

Self-reported school census forms provide basic data for SSRP EMIS reporting. The same data are used to make school level budget allocations, particularly for grants associated with per child funding (PCF) modality. These include grants for textbooks and scholarships at the student level as well as grants for some other items such as PCF-based salaries for additional teachers and quality improvements. While PCF funding, as opposed to teacher-based funding, is designed to enhance quality and efficiency through more equitable grant funding and efficient teacher deployment, it also introduces potential for schools to inflate the number of students to receive higher funding. For this reason, the study compares basic data from the self-reported EMIS with PETS survey-based data. First, the comparison shows that the average number of teachers in EMIS data is 5.8 compared to 6.5 in PETS survey data, indicating 10% of unrecorded teachers in the EMIS system (table below). Second, the average enrollment in grades 1-8 based is 180 from EMIS data compared to 167 according to PETS survey data, suggesting that schools tend to over-report enrollments by 13 students on average (7 for girls and 6 for boys). There is a large variation across regions – Terai schools inflate their enrolments by 27 and despite their larger school sizes, this constitutes 10% over-reporting. It should be noted that the estimated mean discrepancies in the table above mask large differences across schools, i.e. some schools over-report (31%), many schools provide correct reporting (58%) and a few schools under-report (11%). EMIS-PETS data comparison can also provide a validation for some of the system indicators. As seen in **Appendix 4** table 3, there are no differences between the two sources on repetition rates, share of dalits in total enrolments, share of schools carrying out social audits. On the other hand, EMIS data over-reports the incidence of timely receipt of full set of textbooks and training status of the teachers.

	EMIS	PETS	Difference	N
Enrollment	180	167	13	436
Enrollment, Girls	94	87	7	436
Enrollment, Boys	86	80	6	436
Enrollment, Hills/Mts	133	125	8	307
Enrollment, Terai	293	266	27	129
Number of Teachers	5.8	6.5	-0.7	438

Source; Authors' estimates using survey data. Note: Enrollment data includes students grade 1 to grade 8 and number of teachers include permanent, temporary, community recruited, rahat and PCF (per child funding) teachers.

Correlates of school level funds disbursement

41. Taking advantage of the availability of survey data on other school and student level characteristics, the study finds that, social and financial audit practices, school management type, frequency of School Management Committee (SMC) and Parent Teacher Association (PTA) meetings are correlated with quality of financial record-keeping, and coverage, timeliness and potential leakage in school recurrent funds. Specifically, controlling for other factors,

- **Schools conducting regular financial and social audits are less likely to have discrepancy in financial accounting and record-keeping;**
- **Students enrolled in schools that carry out social audits are more likely to receive full sets of textbooks within the stipulated time;**

- **Teachers in community managed schools (compared to other schools) are more likely to receive full salaries (as per official scale);**
- **Schools with more frequent School Management Committee (SMC) meetings and regular social audit practices tend to have lower probability of reporting inflated enrolment numbers in self-reported EMIS, especially for girls; and**
- **Schools with more frequent Parent Teachers Associations (PTA) meetings are associated with lower likelihood of having “ghost” scholarship recipients.**

42. While one cannot ascertain causality links between the two sets of variables, regression results presented in **Appendix 4**. Tables 1, 2, 4 in **Appendix 4** strongly suggest that engagement of parents and the community in the functioning of schools, and greater transparency in school activities and financing may contribute towards lowering the tendency to over-report enrolments and funds recipients, thus minimizing any potential funds leakages. Similarly, audits play an important role in reducing discrepancies in financial reporting. Both social audits and financial audits reduce the chance of discrepancies between the funding amounts reported by DEOs and schools. Specifically, schools conducting social audits have a lower probability of reporting receiving less than the amounts reported disbursed by the DEOs. Similarly, conducting financial audits increases the chances of consistency in reporting between the DEOs and schools regarding received and disbursed amounts. Timely receipt of textbooks by students is positively correlated with the practice of social audits and accessibility of schools. Students in schools conducting social audits are more likely to receive full sets of textbooks within the first two weeks of classes. And as might be expected, schools in more accessible locations and located closer to roads have higher chances of receiving textbook on time. However, there is no correlation between incidence of inconsistencies in financial reporting and timeliness in textbook receipts.

3.2. Quality of Service Delivery and Customer Satisfaction in school education

43. Educational outcomes – in terms of student learning – are the end products of education service delivery chain that includes allocation of funds, such as distribution of textbook and scholarship, quality of services provided by teachers, and accountability in school management. The Quantitative Service Delivery Survey (QSDS) part of this PETS/QSDS survey collected information on school level service delivery inputs, processes and outputs. Inputs include teachers, textbooks, scholarships; processes include school level management/accountability and community/parental participation; and outputs here refer to student attendance as well as parents and students satisfaction ratings. Delivery of textbooks and scholarships are already described in the preceding paragraphs above. The following section describes key partners in service delivery – teachers, school management committees and communities, and client satisfaction from students and parents and linkages between the service providers and the clients.

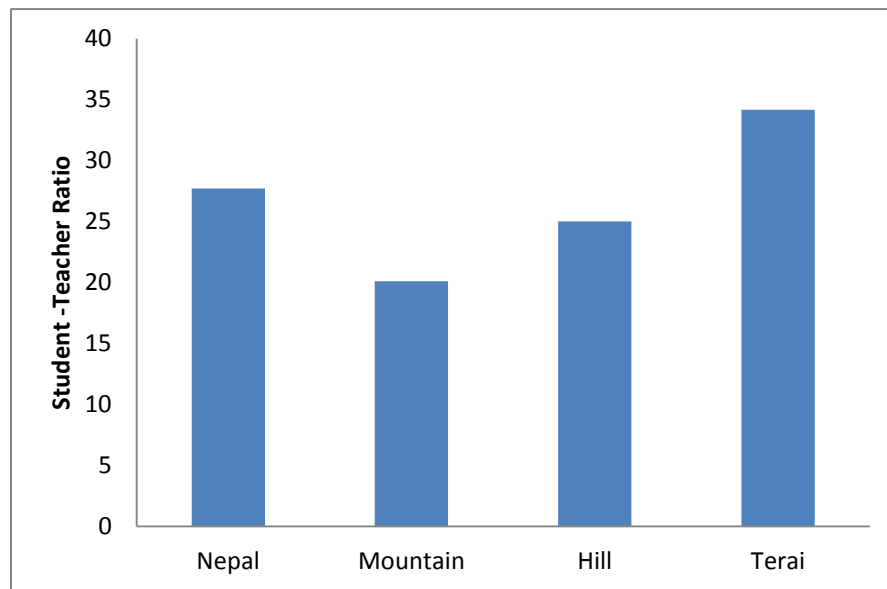
3.2.1. Teachers: front line service delivery providers

44. The student-teacher ratio for basic education (grades 1-8) is 28 students per teacher, better than in other South Asian countries. But the average is masked by a significant variation across geographic regions – the Terai has the highest ratio (34) and the Mountains the lowest (20) as shown in figure 3.1 below– reflecting challenges with teacher deployment across schools. While teacher deployment is an important issue to be explored in another study, this study looks at teacher performance in classrooms, starting from whether they actually show up to teach.

45. Teacher absenteeism rate ranges between 11% and 14%, depending on source of information in the PETs survey. According to school records, 11% of teachers are absent; however a slightly higher 14% of teachers were found to be absent during the headcount recording on the day of the school visit by the surveyors. Interestingly, the percentages of SMC members and parents that perceive teacher absence as a serious or very serious problem stand at 13% and 15%, respectively. Importantly, students report that 15% of classes are not held per schedule.

46. Teacher absence in Nepal is one of the lowest amongst countries in the region. This is not the only reason for cancellation of classes. Frequent *bandhs/strikes* associated with party politics is another major factor. In addition, many teachers spend on average of 15 days per year for their own training and less than half of them make arrangements for make-up sessions missed during their training. The overall impact of teacher absence and missed classes is significant on student learning. Even when teachers are present in classrooms, their teaching practices are predominantly traditional. Close to half the teachers do not prepare teaching plans and the majority of teachers use the lecture method – teachers talk and students listen – as the main pedagogical approach. Participatory and interactive teaching method such as providing individual support, using textbook with life example and taking to field work are rarely used (fewer than 1 in 5 teachers).

Figure 3.1 Student-teacher ratio by region



Source: Authors' estimates using survey data

3.2.2. School Management Committees: decision-makers of service delivery

47. Except for a small proportion of schools from the Terai region, Nepalese schools are characterized by decentralized school management committees (SMCs), consisting of both parents and influential citizens from the local communities, with autonomy to make decisions on staffing and financial matters. As per MOE/DOE guidelines, SMCs are responsible for deploying community-recruited teachers, spending PCF-based salaries and other grants received to implement the school improvement plans (SIPs), and managing the distribution of textbooks and scholarships to students. Therefore, SMCs play a very important role in the service delivery at the school level. According to the QSDS survey, SMCs meet 9 times every year on average, and the three most discussed topics in these meetings are improvement of their schools' physical facilities, school finances and quality of teaching and learning (New ERA, 2013). Close to 80% of SMC members surveyed (2 were surveyed per school) report that SMCs are integral part of the school budget process, reflecting a high degree involvement of SMCs in school financing decision-making. In terms of SMC formation, 6 of the 11 members in the committee are elected and 5 are nominated. Only 1 in 4 members are females – reflecting a fairly low gender representation.

3.2.3. Parents and Community Engagement: monitors of service delivery

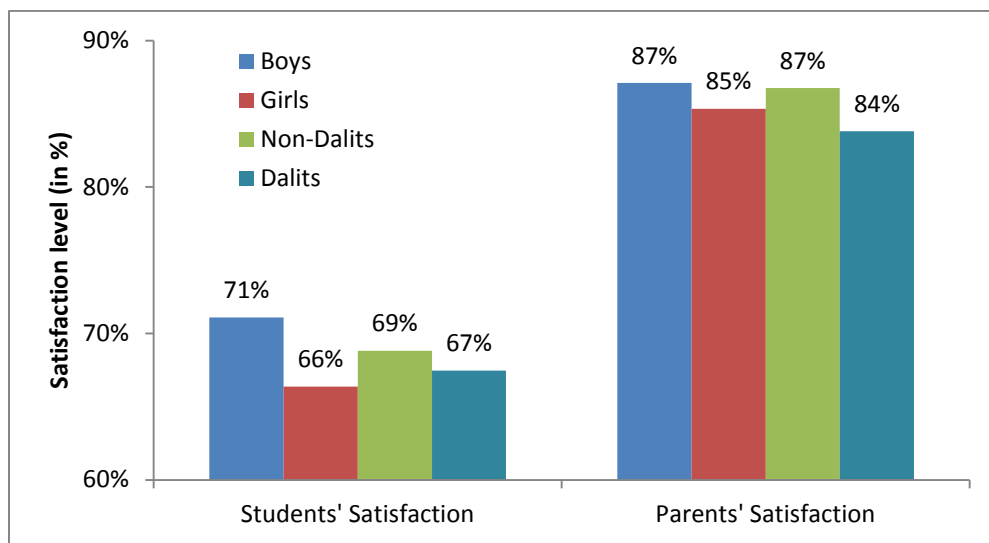
48. Survey suggests that 8 out of 10 schools have a functional Parent Teacher Association (PTA) tasked with monitoring responsibilities which includes conducting the annual social

audits. PTAs on average meet three times a year (New ERA, 2013). There are large regional differences in both the formation of PTAs and frequency of meetings –the Hills and Mountain regions have higher incidence of PTAs and more frequent meetings, compared to Terai. Parents also interact with teachers to discuss their own children’s school performances – 96% of teachers report interacting with parents and 70% of parents report meeting the teachers for the same reason¹².

3.2.4. Client satisfaction from parents and students

49. When parents are asked about the quality of education in the schools their children attend, 75% of them rate it as “good” or better. Even a higher share, 87% of parents, report that they are satisfied with teachers’ performance. On the other hand, when the teacher performance question is asked of the students, only 68% respond with “satisfied”. This perceived rating among students is closely matched by actual student attendance – the estimated average student attendance rate for grades 3, 5 and 8 from PETS survey data is 66%. Two points are noteworthy. First, the differences between parental perceptions and their children’s perceptions are likely driven by two sets of preferences and school-level experiences which can be quite different for the two groups. In the case of Nepal, parents appear to be more optimistic about their children’s education than the children themselves. Second, low level of student attendance, particularly at early grades, is a challenge that merits further analysis and possibly a distinct policy/program intervention.

Figure 3.2 Students and Parents satisfaction on teacher (% of students or parents)

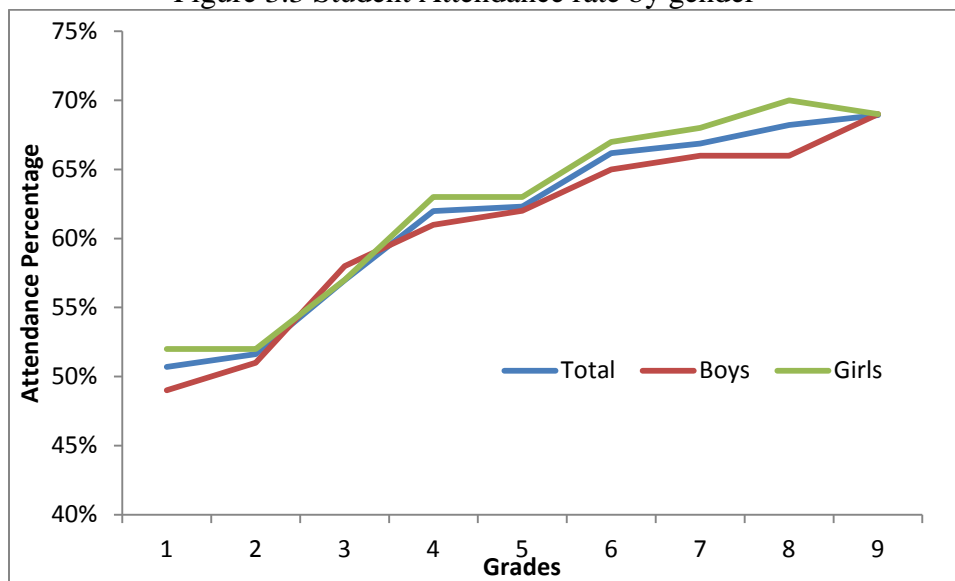


Source : Authors’ estimates using PETS data

¹² The discrepancy between the two numbers is explained by the fact that while most teachers are expected to interact with some parents, not all parents will be meeting their children’s teachers.

50. Gender and ethnicity gaps in parents and student satisfaction ratings on teacher’s performance are small. 66% of girls report satisfied with their teachers compared to 71% of boys. For parents, Dalits (84%) and non-Dalits (87%) are satisfied (figure 3.2). Similarly, despite significant variation across grades, student attendance rates are very similar between boys and girls (figure 3.3).

Figure 3.3 Student Attendance rate by gender



Source : Authors’ estimates using survey data

51. Internal efficiency - as measured by promotion, dropouts and repetition rates – increases with grade (A4 figure 1 and 2). By definition, promotion rates are lower at those grade levels where dropout and repetition rates are higher. Lower levels of attendance in early grades are also reflected in higher levels of dropouts and repetitions. It should be noted that a sizable portion of grade 1 enrolments are under-age – who are more likely than others to not show up in classrooms. While there is no evidence of gender disparity in these indicators, there are still some gaps between dalits and non-dalits.

3.2.5. Relationship between service delivery and student performance and client satisfaction

52. **At the primary level, all four service delivery indicators – student-teacher ratio, teacher attendance, having a full set of textbook, and scholarship beneficiary status – are strong predictors of student attendance over the past thirty days. Among the school accountability and management variables, the presence of PTA is significantly and positively correlated with students’ attendance (Table 3.7 and A4 Table 6).** At the primary level, as classroom size (student-teacher ratio) increases, student’s attendance decreases and higher teacher attendance rate increases the attendance rate of students. However, the magnitude is not large; it is estimated that decrease in student-teacher ratio by 10 at the primary level is associated with only 1 percent increase in attendance rate and 10 percentage point increases in teacher attendance rate are associated with 0.9 percentage point increase in attendance rate. In

the meantime, having a full set of textbook is related with 7.3 percentage point higher attendance rate and a scholarship recipient has 3.8 percentage point higher attendance rate than non-recipient. At secondary level, none of the service delivery indicators turn out to be significant, except scholarships for girls. Surprisingly, having more female teachers relative to number of girls is not associated with girls' attendance rate.

Table 3.7 Students attendance and service delivery

Input	Attendance, Primary		Attendance, Secondary	
	All	Girls	All	Girls
1 more student per teacher in Classroom (student-teacher ratio)	0.1% ↓	0.1% ↓	0.0%	0.1% ↑
10% increase in Teacher Attendance	0.9% ↑	0.8% ↑	0.13% ↑	2.0% ↓
Students have full set of textbook	7.3% ↑	8.8% ↑	2.4% ↑	6.7% ↑
Students receive scholarship	3.8% ↑	5.7% ↑	5.2% ↑	12.3% ↑

Source : Authors' estimates using survey data

Note: Derived based on regression results shown in A4 Table 6. Numbers in bold indicates the result is statistically significant.

53. Smaller class size, frequency of PTA meetings and community managed schools appear to be positively associated with school level internal efficiency as measured by promotion, dropouts and repetition indicators (A4 table 7).

54. **Regression results from service delivery indicators and client satisfaction ratings indicate that parents and students do not always value attributes of education service delivery in the same way.** While classroom size matters to satisfaction of students only, textbooks receipts are important to students and parents alike (Table 3.9, A4 Table 9). Interestingly, the actual teacher attendance in schools does not seem to be associated with parental or students satisfaction levels. This can be partly explained by the small size of correlation between parents' perception on teacher absenteeism and the actual teacher absence rate (or teacher attendance) as noted below. In terms of school accountability and management, the frequency of PTA meetings matter to parents' satisfaction on teacher performance while students' satisfaction ratings are likely to be higher in community managed schools.

Table 3.8 Service delivery and customer satisfaction at the primary level

	All Students	Girl Students	Parents of All students	Parents of Girl Students
Service Delivery				
Student-Teacher Ratio	↑			
Teacher attendance	-	-	-	-
Full textbook receipt	↑	↑	↑	
Scholarship	-	-	-	-
School Management				
Frequency of PTA meeting	-	-	↑	-
Frequency of SMC meet	-	-	-	-

Community managed schools	↑	-		-
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Source : Authors' estimates using survey data

Note: Primary school students (grade 3 and 5). ↑ indicates statistically significant increase in satisfaction and ↓ indicates statistically significant decreases in satisfaction. This is derived from regression results shown in Table A.9.

55. There is a missing link between actual teacher attendance and households' perception on the teacher absenteeism. In general, there is a statistically significant correlation between households' perception on teacher absenteeism and teacher attendance rate, but the size of correlation is fairly small (0.16) However, households' perception on teacher absenteeism is a strong indicator of satisfaction on teacher performance while actual teacher attendance is not correlated with household's satisfaction. Also, presence of PTA in the school is negatively correlated with perceived teacher absenteeism. However, the presence of PTA is not directly correlated with teacher attendance rate of the school (A4 Table 5). These findings suggest that perceptions are even more important than the actual level of service delivery in affecting client satisfaction.

56. **Short-route of accountability:** Going back to the accountability framework postulated in the introduction chapter, the short-route of accountability links parents/communities exercising client engagement with the service providers (schools) to see that service delivery actually takes place at the school level, i.e. teachers show up in classrooms, textbooks and scholarships are distributed to students once they arrive at the school level, and schools are appropriately managing the financial resources available to them. As evidenced from highly engaged communities in the SMCs and PTAs in both service delivery and monitoring duties, and strong linkages between community engagement and service delivery and student outcomes (as measured by attendance), the short-route of accountability appears to be working very well in the case of Nepalese schooling system.

57. **Long route of accountability:** This refers to expression of voice from communities to the policy makers and compact of policy makers (central level) to service providers. Indeed, a large and an increasing share of public investments in education – through increased teachers, universal access to textbooks and significant coverage of scholarships to the needy populations – is a clear indication that policy makers have responded to client's demand. However, there are a number of constraints that can be observed in the compact between the state and the schools: (i) the government is yet to satisfactorily resolve issues around quality of printing and timely distribution of textbooks, (ii) financial management at the district and school level is characterized by poor quality of record-keeping and auditing, and (iii) the self-reported EMIS system needs to be strengthened through an independent validation scheme and a compliance monitoring system to verify that schools and students are indeed fulfilling the eligibility criteria to receive grants, textbooks and scholarships.

3.3. Equity

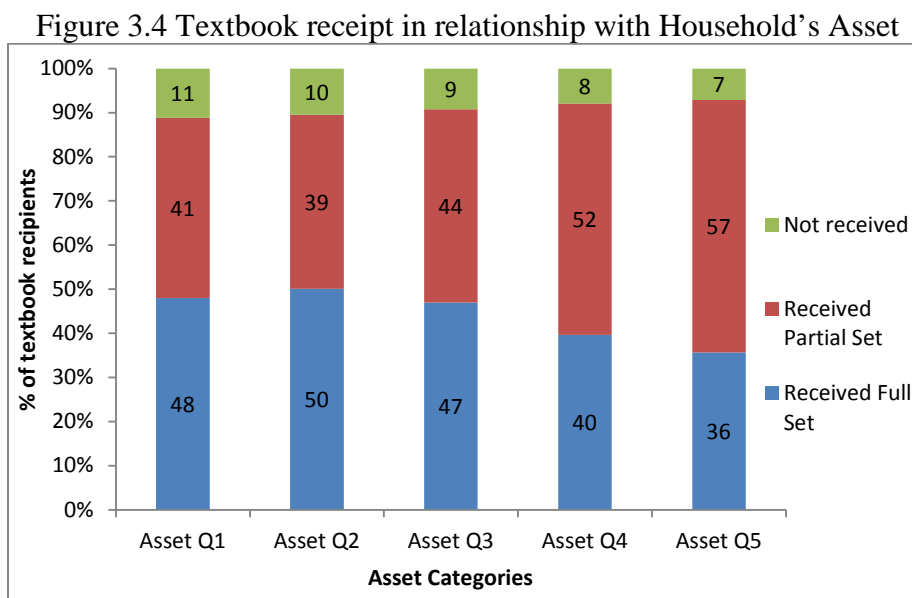
58. This section investigates whether education service is delivered to students in an equitable manner. Benefit incidence analysis, using NLSS 2010 data, indicates that the poorest quintile receives the largest share (35%) of public spending at primary education. The benefit share decreases with income levels – with the richest quintile taking only 6%. Much of this explained

by the fact that children from poorer quintiles are more likely to be enrolled in community (publicly funded) schools than those from richer quintiles; more importantly it reflects the impressive progress made in reducing enrolment disparities across income groups. On the other hand, benefit incidence is skewed towards richer quintiles at higher levels of education – secondary and more so at higher levels¹³.

59. Given that public spending is intended to benefit the disadvantaged groups (including the poor) disproportionately, it is important to look at the distribution of school level service delivery across income groups and across ethnicity/caste groups. Survey data suggests that there are no discernible income gaps in textbook delivery. While the poorest group has the highest percentage of students not having textbook on time, the same group seems to have the largest share of students with full set of textbook (figure 3.4).

60. Scholarships such as those for the girls and the Dalits are aimed at promoting education of disadvantaged children, and data shows that higher share of scholarship benefits is going to the poorest two quintiles for both these scholarship types. Estimates from PETS survey shows that 45% of the total girls scholarship budget goes to the two poorest quintiles; the comparable figure for dalits is 55%, reflecting pro-poor nature of these scholarships types.

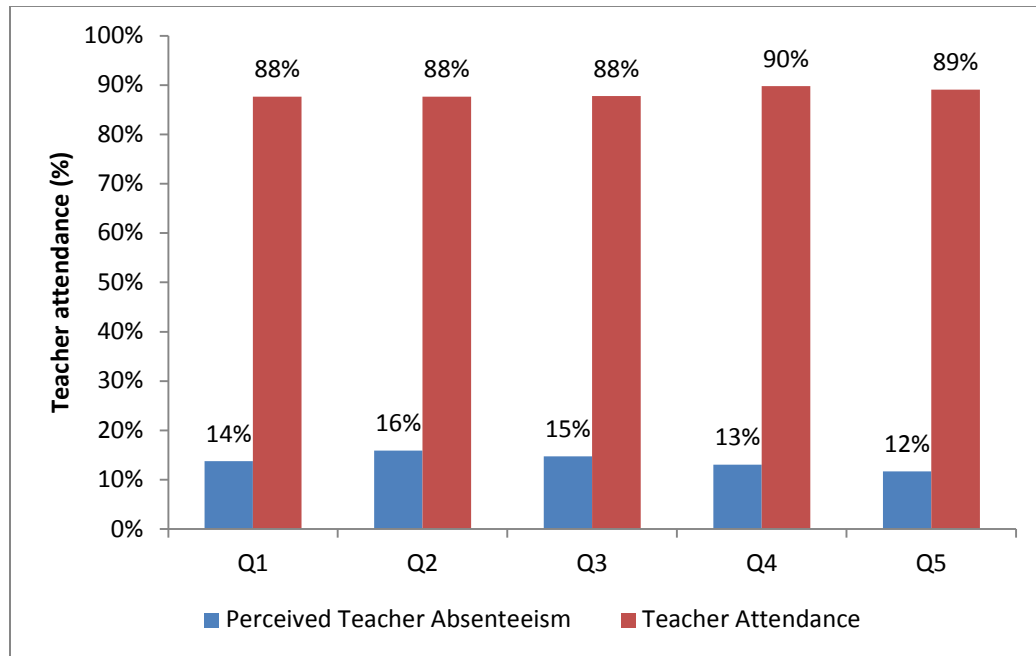
61. It is also noteworthy that there are no income disparities in perceived or actual teacher absenteeism. As shown in table 3.5 below, actual teacher attendance and perceived teacher absence rates are similar for 5 quintiles.



Source : Authors' estimates using survey data, Note: Q stands for asset quintiles; Q1 indicates the poorest quintile.

¹³ For more details on this, see Nepal Human Development Report , The World Bank (2013)

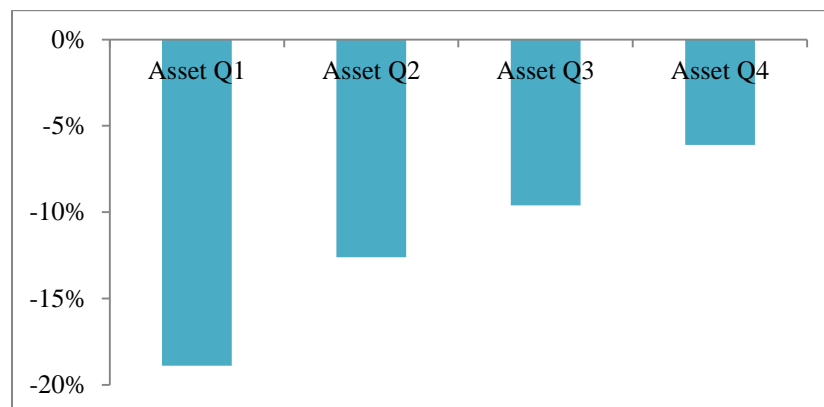
Figure 3.5 Average teacher attendance rate in relationship with household's asset



Source : Authors' estimates using survey data

62. Parents-teacher interactions are important part of the school service delivery. Not surprisingly, teacher interactions are biased toward richer households. Controlling for other factors, parents from the poorest quintile are 19 percentage points less likely to have a meeting with a teacher compared to parents from the richest quintile (Figure 3.6 below). Also, parents of girl students are 5 percentage points less likely to meet with teachers while there is no significant difference in parents-teacher interaction between Dalits and non-Dalits students (full regression results in A4 table 10).

Figure 3.6 Likelihood of Parents and teacher interaction, in comparison to the richest asset quintile



Source : Authors' estimates using survey data

Note: full regression result is shown in Table A.12. Comparison group is the richest quintile.

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Appendix 1. Summary of PETS Studies

Country	Year	Approach/Data Source	Key Findings	Recommendations/Implications
Uganda	1996	Representative survey of 19 districts, covering 250 government-aided primary schools in period 1991-1995	Majority of schools received none of the funds; Only 13 percent of non-wage spending reached to school.	Specific problem is identified and targeted intervention instead of general public sector reform was considered to be proper. Leakage of fund decreased from 80 percent to 20 percent after the PETS and this may be contributed to the result of response from policy changes triggered by PETS.
Ghana	2000	Representative survey of 40 districts, covering 200 schools (three primary schools and two junior schools per district)	Disconnection in recording systems resulted in little local level accountability; 50 percent of non-wage funds were reached to school	Consistent and transparent recording system is required to improve the efficiency of public resource distribution.
Zambia	2001	Representative survey of 33 districts, covering 182 primary schools (grades 1-9)	90 percent of school received rule-based non-wage allocation while only 20 percent of school received any funding from discretionary source.	Level of fund leakage differs by source of allocations and overall public school funding is regressive.
Peru	2001	Interviews with government officials; field work in 100 schools; Government report and various study	Extremely low level of government spending to per student was found and school finances the funds from various sources such as NGO, parent donation, and local government.	It illustrates the importance of service of non-governmental sources and exposes administrative disarray in education system.
LAO	2008	Representative survey of 54 districts, covering 252 primary schools	There is little evidence of fund leakage found. However, the study emphasizes highly insufficient resource in education sector causing delays in service delivery and weak expenditure management.	It recommends the Lao PDR allocate more resources on the sector and adopt a detailed five year public expenditure management strengthening program.
Niger	2009	Charting budget flows and release mechanisms through various government agencies and	The study highlights a lack of systematic recording system, especially between district offices and schools.	Improve resource management transparency by developing a reporting system that can easily trace the amount, the quantity and the unit of resource flows, whether

		facilities		financial or material, and the dates at which transactions take place.
Honduras	2010	Representative survey of four departments, covering 23 municipalities and 161 schools	Inefficient record keeping systems with full of errors; 23 percent of listed teachers found not working ; Estimated macro-leakage of Matricula Gratis cash transfers amounts to about USD\$1 million; Local governments playing a substantial role in school finance that is largely off the books.	It recommends the government improve databases and develop better record-keeping practices and publish key information; audit the Matricula Gratis cash transfer program; train and empower school directors and parents to mitigate leakages and monitor of teachers' absenteeism and the use of resources.
Afghanistan	2011	Document reviews and interview of government officials Surveys of selected 3 districts, covering 60 schools	Most of staff salaries were paid regularly via automated payment system; Operation & Maintenance system were not well tracked and recorded; construction of schools has been delayed due to low capacities in SMCs and poor timing of advance payments.	It recommends the improvement of understanding of MIS at the district levels; setting-up mechanisms and technical assistance for coherent, realistic and simple planning; change of the existing practices regarding accountability

Source: Authors' summary of various country studies

Appendix 2a. Data and Methodology

1. **This study is based on a desk review of available documents as well as an analysis of data collected from a dedicated survey of schools, families, relevant government officials, and other stakeholders.** The bulk of the data for the study was collected from a nationally representative sample of schools, and students studying in grades 3, 5 and 8 in these schools. In addition, data were also collected from the families of these students. The primary methods of data collection included direct observations and individual interviews. Focus group discussions with relevant stakeholders were also conducted in each sample district to gain deeper insights into factors affecting service delivery at the school level. The survey was conducted in two rounds—first between August and October, 2012 and then in December, 2012. The fieldwork for each round was preceded by a nine-day training for supervisors and a week-long training for enumerators and other surveyors.

Desk review

2. **The primary purpose of the desk review was to obtain detailed information on the budgeting process and the funds flow mechanism in Nepal' education sector, and provide insights into the various stages of the survey design.** In addition, the review was also expected give the study team a better understanding of findings from studies in other countries that could feed into this study design and analysis.

3. **Three main sources of information were used for this purpose: government documents, study reports, and the international literature on PETS/QSDS** (see Table A.1). The key government documents of relevance included documents on budget procedures and guidelines (MOF, 2011), the Education Act 2028, the Education Regulations 2059 (MOE 2002), the Public Procurement Act 2063 and the Procurement Regulations 2064 (PPMO, 2007). These documents provide information on the funds flow process, financial management requirements, procurement requirements, and reporting requirements for the Ministry of Education (MOE) and its subordinate agencies. Two studies were carefully reviewed—a PETS on the primary education sector carried out by National Planning Commission (NPC, 2011) and a recent descriptive report on the education sector prepared by the survey firm New ERA (New Era, 2013). Apart from providing valuable information on the budget process and funds flow in general, both studies provide insights into the reasons behind delays in the receipt of funds by beneficiaries. Other relevant information and clarifications on these topics were obtained through discussions with GoN officials and World Bank colleagues working in the financial management sector and poverty reduction and economic management sector.

Survey methodology - Sample design

4. **The survey is based on a two-stage stratified random sampling design.** The country was divided into nine strata broadly representing Nepal's eco-development regions. In the first stage, a sample of districts was selected within each stratum. The second stage involved the selection of schools within the sampled districts. The sampling universe for the survey consisted of all

schools that had all or at least one of grades 3, 5 or 8. The desired sample size (number of schools) was determined to be 440.

5. **The results of the district selection process (first stage) are summarized in Table 2.1¹⁴.** Two districts were randomly selected from each of the nine strata except in case of one stratum—namely, the Hill region of the Central and Western Development Regions where four districts were selected¹⁵. Thus the survey sample included a total of 20 districts representing the nine strata.

A2. Table 1 Distribution of sampled districts by stratum

North-South Division	East-West Division			Total
	Eastern Development Region	Central and Western Development Region	Mid and Far- western Development Region	
Mountain	Taplejung, Sankhuwashaba 3(2)	Manang, Mustang 5(2)	Mugu, Bajura 8(2)	16(6)
Hill	Dhankuta, Bhojpur 8(2)	Sindhuli, Makwanpur, Myagdi, Baglung 20(4)	Jajarkot, Dailekh 11(2)	39(8)
Terai	Morang, Sunsari 5(2)	Mahottari, Nawalparasi 10(2)	Banke, Kailali 5(2)	20(6)
Total	16(6)	35(8)	24(6)	75(20)

Source: New Era (2013)

Note: In each stratum, the figure in parenthesis represents the number of sample districts, and the other figure represents the total number of districts in the stratum.

6. **The 440 sample schools were allocated to the different strata and districts using a proportional allocation approach.** The number of sample schools allocated to each stratum was in proportion to the stratum's share of community plus religious schools in the country. Similarly, within each stratum, the allocation of sample schools to the sample districts was based on the districts' shares of the stratum's schools. The final allocation of sample schools to the different strata is shown in A2.Table 2.

A2. Table 2 : Distribution of total schools and allocated number of sample schools by regions

North-South Division	East-West Division			Total
	Eastern Development	Central and Western	Mid and Far- western	
Mountain	972	1088	1755	3815
Hill	2948	8566	4387	15901
Terai	2279	4291	1783	8353
Total	6199 (97)	13945 (218)	7925 (125)	28069 (440)

Source: New Era (2013) Note: In each stratum, the figure in parenthesis represents the number of sample schools, and the other figure represents the total number of community and religious schools in the stratum.

¹⁴ Sampling was carried out at DOE in the presence of GoN officials, representatives from the survey firm (New ERA), and representatives from the World Bank.

¹⁵ Four districts were selected from this stratum since it includes more than double the number of districts in any other region.

7. **In the second stage, the allocated number of sample schools within each sample district was randomly selected from the list of community and religious schools in the district.** Additionally, in each sample school, teachers, SMC members, students, and families of students were selected to participate in the survey. Their selection process is summarized below.

Teacher selection: The head teacher or any teacher acting as head teacher was the main source of school information. In addition, two teachers teaching grades 3, 5 or 8 were selected randomly. An attempt was made to ensure that at least one teacher was a permanent teacher and there was as much female representation as possible.

SMC member selection: The Chairman of the School Management Committee (SMC) and one other SMC member were selected for interviews in each sample school. Conscious efforts were made to include as many female SMC members as possible.

Student selection: In each sample school, 9 students each from grades 3, 5 and 8 were planned to be selected randomly using the grade registers. Efforts were made to have balanced gender representation in the student sample as well.

Household selection: Households of the students included in the sample were selected for interviews. The aim of the interviews was to get feedback from parents/community members on school services and also gather information on their participation in school-related activities.

Questionnaire design

8. **The questionnaires used in this survey primarily targeted three categories of stakeholders:** school-level stakeholders (teachers, SMC members, households, and students), district level government officials, and central level government officials. These data collection instruments are briefly described below along with major types of data they are designed to collect.

Data Collection Instrument	Major Types of Information Solicited
a. School Survey Questionnaire	Background information of the school, school finances, physical facilities and their condition, enrollment and attendance information, partnership with community, teacher information, other service delivery questions.
b. Household Questionnaire	Household background information, household roster, children education, participation and perception about service of the school, living standard of the household.
c. SMC Member Questionnaire	Information related to overall management of the school.
d. Teacher Questionnaire	Teacher background information, view's about school's service delivery and constraints, and about school management.
e. Student Questionnaire	Background information, experiences about text book provision, scholarship (if any) receipt and payment practices, discriminations faced in the school, school attendance, teacher regularity.
f. Classroom Observation Form	Observations about actual teacher and student activities inside the class.
g. District Education Officer Questionnaire	Background information, budget and release practices, fund flow information, perception about fund management at the schools.
h. DTCO Questionnaire	Budget, fund flow.
i. Questionnaire for Central Level Agencies	Budget and fund flow information (NPC, MOF, MOE, DOE, FCGO)
j. Guidelines for focus group discussion with district level stakeholders	

9. **One of the objectives of the PETS survey was to verify self-reported data from school census (flash reports) on number of teachers and students.** Teacher information from the school census/flash forms may differ from that from the PETS for a number of reasons: (i) timing of the PETS survey (October-December) relative to the Census (Flash II in March and Flash I in June); (ii) Census may exclude some of the locally (community) recruited teachers that are not part of the Government funded positions. It should be noted that PETS records number of teachers in a given sample school by enumerators: (a) visiting all classrooms and taking headcount of each teacher; and (b) going through teacher attendance registers. Both of these procedures are distinctly different from the self-reported census data.

Sample Description

10. **A comparison of average school enrollment data between the sample schools and all the schools in the country confirms the representativeness of the survey sample.** As shown in A2. Table 3, there is little difference in average enrollment between all schools (census) and the sample schools. This finding holds for overall enrollment and girl's enrollment while the difference in enrollment for boys is shown to be statistically significant but small in magnitude.

A2. Table 3 : Comparison of school enrollments in the official school census (EMIS) and survey sample, 2010-11

	Average enrollment		Difference
	EMIS (census)	Survey (sample)	EMIS-Survey
All	228	223	5
Girls	116	116	0
Boys	112	106	6

Source: Authors' estimates using EMIS data.

Note: Schools at 99 percentile or above in terms of enrollment have been excluded in computations. The difference, except for boy's enrollment, is not statistically significant. Enrollment statistics of survey sample schools is weighted at school level.

11. Detailed school characteristics of survey sample are described in A2. Table 4. 72 % of schools are community school and, overall, majority of schools have formed School Management Committee (96%), Parents-Teacher Association (82%), and practice social audit (87%). 42 % of teachers are female, 32 % are permanent teachers and 20% are community recruited teachers. In terms of school facility, 90 % of schools have toilets within school premises and 71 % have source for drinking water while only 4 % of schools have laboratory facility.

A2. Table 4 : Sample Description

	Nepal	Mountain	Hill	Terai
<i>School Facility</i>				
Toilets within school premises (%)	91.3	91.8	88.1	96.9
Separate toilets for boys and girls (%)	49.4	52.8	42.3	61.2
Source for drinking water (%)	71.2	71.2	62.5	86.8
Average number of rooms used for teaching	6.7	6.1	6.2	7.7
Library room (%)	18.4	14.2	16.8	22.4
Laboratory Facilities (%)	4.3	7.8	3.6	4.6
Separate Computer room (%)	8.1	19.7	7.2	6.2
<i>School Accessibility (Distance to Road)</i>				
No access to roads	5.3	2.1	8.4	0.7
Within School Boundary (%)	28	11.4	29.1	30.7
Within 30 minutes (%)	40.1	43.3	31.6	54.7
Between 30 minutes and 1 hour (%)	10.8	20.1	10.5	8.9
1-2 hours (%)	5.7	N/A	8.1	3.1
2-3 hours (%)	4.6	8.9	6.1	0.7
More than 3 hours (%)	5.5	14.3	6.2	1.5
<i>School Management</i>				
Community School (%)	71.7	70.6	73.5	68.8
Community Managed School (%)	25	28.8	25.7	91.6
SMC formed (%)	96.2	100	99.6	89
PTA formed (%)	82	96.4	89.3	64.3
Practicing Social Audit (%)	86.7	96.2	83.6	89.4
<i>Teacher Characteristics</i>				
Female (%)	42.1	34	39.7	48.8
Tenure - Permanent (%)	31.8	38.7	28.1	34.8
Tenure - Temporary (%)	15.2	21.1	17.3	11.4
Community Recruited (%)	19.9	20	20.2	19.5
Rahat (%)	18.1	8.7	19.8	18.1
Per Child Funding (%)	4.3	3.7	4.2	4.6
<i>Student Ethnicity</i>				
Dalits (%)	20.6	20.1	20.2	21
Janjati (%)	41.2	26.3	47.9	37
DAG (%)	2.4	N/A	2.1	3.2

Source : Authors' estimates using survey data

Appendix 2b. Key Findings from New Era Report

- Teachers approved positions: The number of government approved positions for teachers was less than one-half of the actual number of teachers in the schools.
- Physical facilities: Almost all schools have their own buildings but there is wide variation in quality of the buildings. Many of the schools do not have library facilities.
- Student attendance: Student attendance is low with 42 percent of students absent from classrooms on the first day of school visit by the research teams.
- Scholarships: There were cases where student scholarships were not distributed according to the DOE guidelines. Some ineligible students received these scholarships.
- Internal Efficiency: Internal efficiency (grade progression) increases with grade but is a concern at lower grades. Girl students tend to perform better than boys in internal efficiency.
- Text Books: A sizable proportion (more than a third) of students does not get textbooks on time. Receipt of incomplete sets of textbooks is another significant problem.
- Teacher Issues: Teacher absenteeism is also a problematic issue. Close to one in five teachers were absent and according to students, and on average one out of six classes was not held.
- Parents interaction with teachers: The encouraging finding on the ownership at the school is that most of the parents had interactions with teachers to discuss their children's education.
- Fund release: There is bunching in fund release in the third trimester, especially in the very last month of the trimester which is also the last month of the fiscal year.
- Mismatch between fund received and fund allocated: On the whole schools reported receiving more funds than what the DEO had released. However, there were also schools which reported receiving less than amount released by DEO. A definitive conclusion about leakage of fund from DEO to schools is difficult to make as the records at schools as well as DEO level were not easy to collect and process.
- School Level financial record-keeping was incomplete, especially at primary schools. This raises concerns about whether schools have been able to follow the school accounting manual.
- Financial audits were conducted in most of the schools but quality of the audit report was questionable. There is also no mechanism for review of school audits.
- The financial monitoring of schools by DEO is not in practice.

Appendix 3. Budget Process and Fund Flow Mechanism

Budget Planning and Formulation¹⁶

1. **The budget preparation process for each fiscal year typically starts in November and takes around six months to complete.** The resource committee¹⁷, headed by the vice-chairman of the National Planning Commission (NPC), determines the ceiling for the total national budget for the next fiscal year by the third week of November on the basis of revenue estimates, foreign aid forecasts, and estimated borrowing amounts. Based on this estimate, NPC and the Ministry of Finance (MoF) determine the budget ceiling for each ministry. MoF sends this information and budget preparation guidelines to individual ministries, including MoE, in the second week of December. The line ministries send the guidelines and budget ceilings to their subordinate departments and agencies, requesting them to submit their Annual Work Plans and Budgets (AWPBs). The ministries determine their final budget requirements for the fiscal year based on the AWPBs submitted by their subordinate units, and submit their proposals for capital expenditure and recurrent expenditure to NPC and MOF, respectively, in early March. MoF finalizes the budgets for the ministries after multiple rounds of negotiations between the ministries and NPC/MOF, and subsequent discussions within MoF and NPC. The draft final budget is submitted to the Cabinet for approval in the third week of May. The Finance Minister submits the Cabinet approved budget to the Parliament for deliberation and approval towards the end of June (MOF, 2011).

Budget Approval

2. **The Parliament is expected to approve the budget by passing the Finance Bill, Appropriation Bill, and Loan and Mortgage Bill.** In the absence of the Parliament, these bills come in the form of an ordinance approved by the President. If there is a delay in approving the full budget, the Parliament passes an Advance Bill as a stop-gap measure on the first day of the fiscal year (around July 16), authorizing the government to spend up to one-third of the total expenditure incurred in preceding fiscal year (New ERA, 2013).

Budget Execution: Spending Authorizations and the Flow of Funds

3. **After the full budget has been passed, MOF issues new spending authorizations to all ministries, requesting them to issue similar authorization letters to their subordinate units within fifteen days.** Since MOF normally sends initial authorization letters to all the ministries on the first day of the new fiscal year, it is expected that MoE and other ministries will issue spending authorizations to their units by the end of July¹⁸. Upon receiving spending authorization from MoE, the different units under MoE, including the Department of Education (DOE), are expected to send similar authorizations to their respective sub-units within two weeks

¹⁶ See MoF (2011), NPC (2012) and New Era (2013) for details.

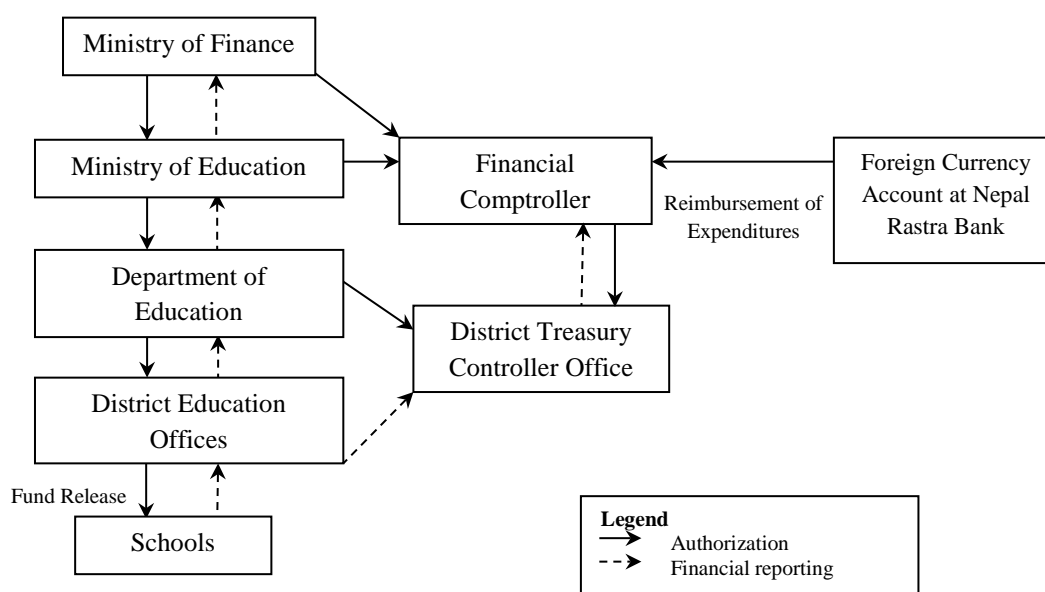
¹⁷ The other prominent members of resource committee are the Finance Secretary, governor of Nepal Rastra Bank, and the Finance Comptroller General .

¹⁸ Copies of these authorization letters are also sent to the Financial Comptroller General's Office (FCGO).

if their own AWPBs have been approved by NPC (NPC, 2012). However, there is no set norm for the time required to obtain NPC approval for their AWPBs¹⁹.

4. **The mechanism for the flow of funds to the school level is illustrated in A3 Figure 1.** While different units under MOE are responsible for issuing spending authorizations at different levels, the Financial Comptroller General’s Office (FCGO) and the District Treasury Comptroller’s Office (DTCO) play a key role in authorizing the release of funds to these units²⁰. The discussion below focuses on the flow of authority and funds after the District Education Offices (DEOs) have received spending authorization from DOE (New ERA, 2013).

A3. Figure 1 Funds flow to the school level



Source: New Era (2013)

5. **During the month of August, DEOs request DTCOs to release the budgets for their districts.** DTCOs release the district budgets to DEOs after FCGO examines the documents accompanying the requests²¹ and formally authorizes them (DTCOs) to proceed with the release. After receiving the funds from the DTCOs²², DEOs release the budget to schools within a week upon approval by the school supervision department (NPC, 2012)²³.

6. **DEOs are supposed to release the budget to schools according to the schedule shown in Table 3.1.** Most of the capital budget is supposed to be sent to schools in second and third

¹⁹ Usually, the budgets received by the line ministries are less than the budgets proposed in their AWPBs. After the budget ceilings are finalized by NPC, the individual line ministries give a final touch to their AWPBs and submit the revised versions to NPC for final approval.

²⁰ The FCGO is mainly responsible for maintaining central accounts and transactions records. DTCOs are district level offices under FCGO, MOF, mandated to ensure financial discipline at the district level. They also conduct internal audits of the government offices. There is one DTCO in each of the 75 districts of the country.

²¹ In particular, the authority letter from DoE and programs are approved by NPC.

²² DEOs receive funds under these budget headings: teacher salaries, SSRP recurrent (besides salary), and SSRP capital.

²³ Nepal has recently introduced a Treasury Single Treasury Single Account (TSA) system for government payment and receipt processing. Hence, it is expected that, in the future, DTCOs will directly release the budget to schools.

trimesters (DOE, 2013). In the case of the recurrent budget, however, funds for scholarship and textbooks are supposed to be released to schools in the second trimester (so that it reaches schools in time for the new academic session), capital budget is released in second and third trimesters, and the budget for salary payments and other grants should be released in all three trimesters (DOE, 2013). A3 Figure 2 provides an indicative staffing structure at the DEO level.

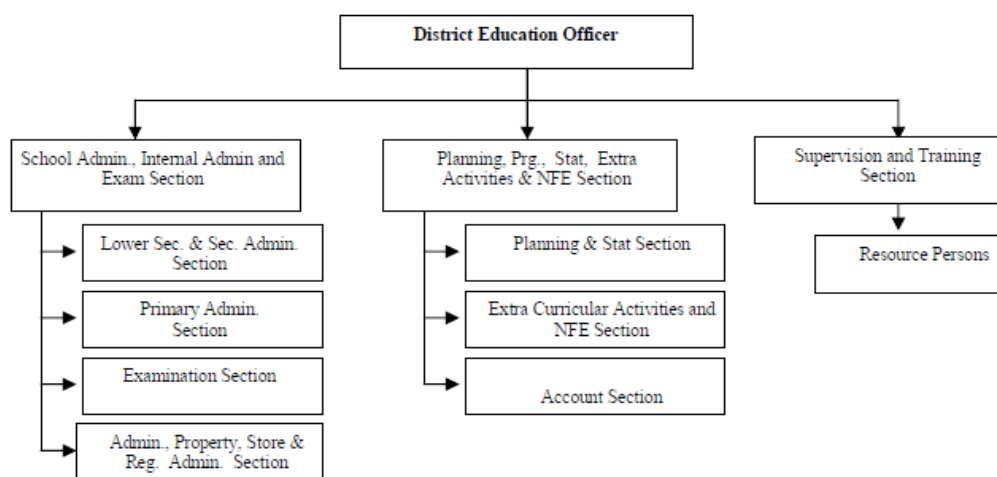
A3. Table 1: Grant budget release schedule to schools from DEOs

Budget Headings	First Trimester	Second Trimester	Third Trimester
A. Recurrent Budget			
Salary of teachers, ECD, and Staff	√	√	√
Girls scholarship		√	
Dalit scholarship		√	
Textbooks		√	
Other grants	√	√	√
B. Capital Budget			
New building construction		√	√
Improvement for outside environment school		√	√
Building renovation		√	√

Sources: DOE (2011, 2012); New ERA (2013); NPC (2012)

Note: First trimester budget is supposed to be released by the 4th week of September; the second and third trimester budgets are supposed to be released by around mid-February and mid-June, respectively.

A3. Figure 2 DEO Staffing structure at District Level



Source: Authors.

Note: The above organogram is indicative and varies across districts and over time

Appendix 4. Tables and Figures

A4. Table 1: Discrepancy in financial accounts and “ghost” beneficiaries (school level)

	Discrepancy in Financial Account		Ghost beneficiaries	
	(1)		(2)	
	Receiving More	Receiving Less	Girls Scholarship	Dalits Scholarship
<i>School Accountability and Management</i>				
Have PTA	0.483	0.799	-0.033	-0.011
	(0.386)	(0.520)	(0.056)	(0.099)
Frequency of PTA meeting	-0.031	-0.011	0.002	-0.019**
	(0.045)	(0.057)	(0.006)	(0.006)
Frequency of monitoring activities	-0.006	0.013	-0.001	-0.004
	(0.023)	(0.030)	(0.003)	(0.004)
Frequency of SMC meet	0.013	0.018	-0.003	-0.002
	(0.030)	(0.038)	(0.005)	(0.005)
Community managed schools	0.156	0.113	0.010	0.025
	(0.316)	(0.413)	(0.053)	(0.022)
Have Accountant	0.879*	-0.328	-0.047	-0.002
	(0.461)	(0.735)	(0.082)	(0.049)
Do Social Audits	-0.598	-0.836*	0.033	0.091
	(0.409)	(0.500)	(0.057)	(0.111)
Do Financial Audits	-0.530**	-0.733**	0.072	0.077
	(0.269)	(0.346)	(0.043)	(0.051)
Only Primary level	-1.266***	-0.502	0.047	0.079
	(0.308)	(0.412)	(0.056)	(0.057)
<i>Distance to road or DEO/ Region</i>				
Distance to Road (within 30min)	0.381	-0.680	0.006	-0.040
	(0.314)	(0.427)	(0.041)	(0.063)
Distance to Road (30min-hr)	0.576	0.289	0.010	0.002
	(0.483)	(0.582)	(0.089)	(0.053)
Distance to Road (1 hr plus)	-0.072	0.079	0.120	0.170**
	(0.372)	(0.450)	(0.085)	(0.053)
Distance to DEO (1-2 hrs)	-0.128	-0.413	-0.021	-0.031
	(0.432)	(0.661)	(0.053)	(0.084)
Distance to DEO (2-5 hrs)	0.665	1.275**	-0.023	-0.109**
	(0.430)	(0.573)	(0.041)	(0.041)
Distance to DEO (5 hrs plus)	-0.351	0.347	-0.011	-0.004
	(0.427)	(0.593)	(0.021)	(0.049)
Mountain (ref. Terai)	1.798***	-0.650	-0.125***	0.074

	(0.625)	(0.892)	(0.035)	(0.062)
Hill (ref. Terai)	0.324	-0.941**	-0.073**	0.055
	(0.331)	(0.412)	(0.028)	(0.090)
Constant	1.454**	0.547	0.199***	0.354**
	(0.618)	(0.817)	(0.038)	(0.142)
Sample Size	436		436	436
Pseudo R²	0.1232		-0.003	0.034

A4. Table 2: Textbook and Salary as per scale

	Paid for textbook (1)	Have full textbook delivered in time (2)	Teacher Salary as per scale (3)
<i>School Accountability and Management</i>			
Have PTA	-0.047	0.184	0.038
	(0.053)	(0.124)	(0.028)
Frequency of PTA meeting	0.032	0.004	0.005
	(0.024)	(0.031)	(0.011)
Frequency of monitoring	0.005	-0.058	-0.015
	(0.035)	(0.033)	(0.013)
Frequency of SMC meet	-0.016	0.032	-0.019
	(0.034)	(0.033)	(0.013)
Community managed schools	0.101**	0.004	0.036**
	(0.035)	(0.057)	(0.017)
Have Accountant	-0.005	-0.037	0.024
	(0.050)	(0.076)	(0.021)
Do Social Audits	-0.068	0.121**	0.158***
	(0.062)	(0.044)	(0.022)
Do Financial Audits	0.017	-0.013	0.025
	(0.054)	(0.035)	(0.015)
Only Primary level	-0.003	0.309***	-0.069***
	(0.033)	(0.067)	(0.016)
<i>Individual Or Households</i>			
Asset Q1 (ref. Asset quintile 5)	-0.038***	-0.004	
	(0.011)	(0.031)	
Asset Q2(ref. Asset quintile 5)	-0.017	0.020	
	(0.011)	(0.023)	
Asset Q3 (ref. Asset quintile 5)	0.015	-0.003	
	(0.025)	(0.026)	
Asset Q4 (ref. Asset quintile 5)	0.048	0.017	
	(0.030)	(0.040)	
Female	-0.005	0.020	0.009
	(0.009)	(0.012)	(0.014)

Dalits	-0.009	-0.045	
	(0.021)	(0.030)	
Distance to road or DEO/ Region			
Distance to Road (within 30min) (ref. road is within school boundary)	-0.000	0.043	0.022
	(0.057)	(0.057)	(0.017)
Distance to Road (30min-hr) (ref. road is within school boundary)	-0.018	-0.135*	0.045*
	(0.056)	(0.062)	(0.026)
Distance to Road (1 hr plus) (ref. road is within school boundary)	-0.057	-0.154**	0.011
	(0.038)	(0.057)	(0.021)
Distance to DEO (1-2 hrs) (ref. distance to DEO: within 1 hour)	0.038	0.044	-0.043*
	(0.051)	(0.095)	(0.025)
Distance to DEO (2-5 hrs) (ref. distance to DEO: within 1 hour)	0.055	0.106**	0.001
	(0.042)	(0.040)	(0.023)
Distance to DEO (5 hrs plus) (ref. distance to DEO: within 1 hour)	-0.028	0.088	-0.036
	(0.087)	(0.062)	(0.024)
Mountain (ref. Terai)	-0.081	0.017	-0.072**
	(0.092)	(0.055)	(0.028)
Hill (ref. Terai)	0.041	0.056	-0.023
	(0.099)	(0.058)	(0.018)
Constant	0.167	-0.033	0.843***
	(0.142)	(0.103)	(0.046)
Sample Size	7627	7627	1320
Pseudo R²	0.067	0.163	

Source : Authors' estimates using survey data

Note: (1) All models are estimated using linear probability model (LPM). (2) For paid for textbook, the dependent variable is an indicator variable, 1 if the student responded having paid for textbook and zero otherwise. For have full textbook delivered in time, the dependent variable is an indicator variable, 1 if the student responded having received full set of textbook within the scheduled delivery time and zero, otherwise. For salary as per scale, the dependent variable is an indicator variable, 1 if the teacher reported having received salary as per official pay scale and zero, otherwise. (3) Standard errors are clustered at primary sampling unit and shown in parentheses.

*** 1% , ** 5% and * 10 % significance level.

A4. Table 3: Differences in key indicators between EMIS and PETS

Indicators	EMIS	PETS	Difference (EMIS-PETS)
Efficiency (Primary level)			
Repetition	10.6	11.6	- 1.0
Quality			

Textbook availability (full set in first two weeks)	72.3	61.2	11.1
Student teacher ratio at primary	29.0	22.0	7.0
Student teacher ratio at lower secondary	44.0	26.0	18.0
Student teacher ratio at secondary	31.0	32.0	-1
Teacher training (partial or full)	93.8	86.5	7.3
Equity			
Share of Dalits	20.3	20.6	-0.3
Share of females	50.5	51.2	-0.7
Governance			
Social Audits	87.0	86.5	0.5

Source : Authors' estimates using PETS data; DOE (2012)

A4. Table 4: Probability of Over-reporting in EMIS compared to PETS

	Enrollment (1)	Enrollment, Girls (2)	Number of Teachers (3)
Have PTA	-0.047	0.164***	0.115**
	(0.077)	(0.045)	(0.043)
Frequency of PTA meeting	-0.000	-0.004	-0.008*
	(0.004)	(0.014)	(0.004)
Frequency of monitoring activities	0.003	-0.001	-0.002
	(0.003)	(0.002)	(0.002)
Frequency of SMC meet	-0.013**	-0.012*	0.002
	(0.005)	(0.006)	(0.006)
Community managed schools	-0.008	-0.017	0.013
	(0.032)	(0.039)	(0.037)
Do Social Audits	-0.081	-0.152**	-0.120***
	(0.062)	(0.055)	(0.015)
Do Financial Audits	-0.032	-0.031	0.013
	(0.049)	(0.040)	(0.032)
Only Primary level	0.041	-0.036	-0.133***
	(0.034)	(0.059)	(0.026)
Distance to road or DEO/ Region			
Distance to Road (within 30min), ref. within school boundary	-0.053	-0.076*	-0.028
	(0.089)	(0.035)	(0.032)
Distance to Road (30min-hr) , ref. within school boundary	0.029	-0.017	0.019
	(0.071)	(0.107)	(0.046)
Distance to Road (1 hr plus) , ref. within school boundary	-0.060	-0.131*	0.063**
	(0.074)	(0.063)	(0.025)
Distance to DEO (1-2 hrs)	-0.055	-0.044	-0.078
	(0.052)	(0.066)	(0.062)
Distance to DEO (2-5 hrs)	0.051	0.082	-0.025
	(0.067)	(0.065)	(0.057)
Distance to DEO (5 hrs plus)	0.100	0.096	-0.082

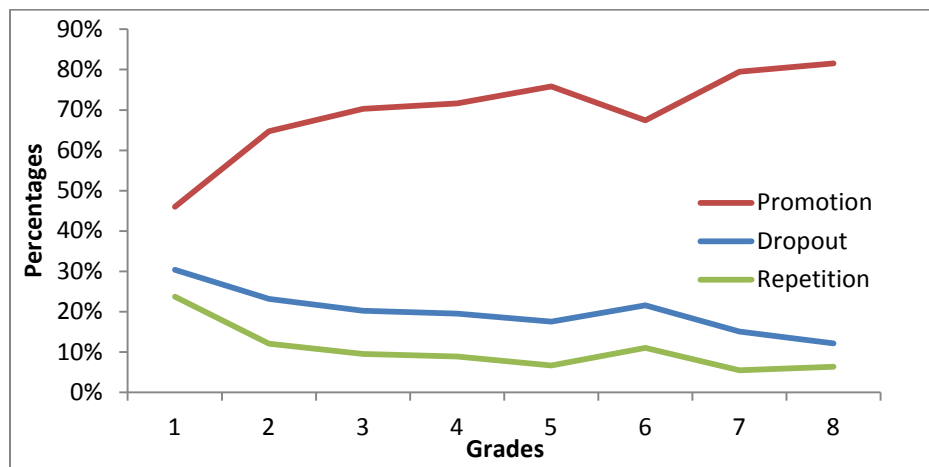
	(0.066)	(0.081)	(0.098)
Mountain (ref. Terai)	0.038	0.070	-0.109
	(0.058)	(0.057)	(0.062)
Hill (ref. Terai)	-0.118*	-0.138**	-0.114
	(0.053)	(0.052)	(0.062)
Constant	0.567***	0.622***	0.378***
	(0.070)	(0.057)	(0.088)
Sample Size	436	436	436
R2	0.039	0.031	0.042

Source : Authors' estimates using PETS data

Note: (1) Estimated using linear probability model. (2) Dependent variable is an indicator variable 1 if difference between EMIS and PETS (EMIS>PETS) is greater than 5% of total enrollment for all and girls enrollment for girls and zero, otherwise. (3) Standard errors are clustered at primary sampling unit and shown in parentheses.

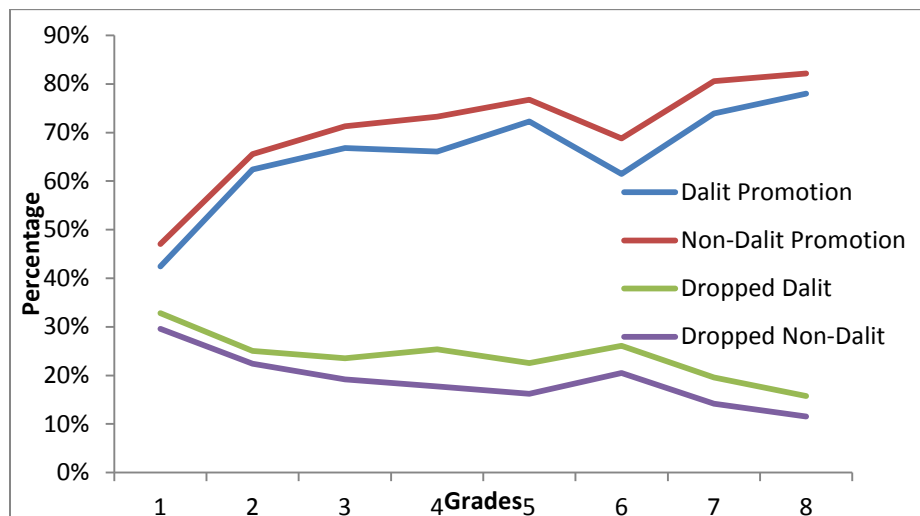
*** 1% , ** 5% and * 10 % significance level.

A4. Figure 1 Internal Efficiency--Grade-wise Promotion and Dropout rates



Source : Authors' estimates using survey data

A4. Figure 2 Grade-wise Internal Efficiency for Dalits and Non-Dalit students



Source: Authors' estimates using survey data

A4. Table 5: Teacher attendance and household's perception

	Household's Perception on Teacher Absenteeism (1)	Household's Satisfaction (2)	Household's Satisfaction (3)	Teacher Attendance (4)
Proportion of teacher present during school visit (0 to1)	-0.164** (0.069)	0.119 (0.067)		
HH perceived teacher absenteeism as serious			-0.362*** (0.036)	
Full textbook receipt (dummy)	-0.006 (0.016)	-0.020 (0.035)	-0.022 (0.030)	
<i>School Accountability and Management</i>				
Has PTA	-0.105*** (0.022)	0.075* (0.038)	0.037 (0.032)	0.013 (0.015)
Frequency of PTA meet	0.001 (0.008)	0.029* (0.013)	0.030** (0.011)	0.002 (0.002)
Frequency of monitoring activities	-0.009 (0.018)	0.004 (0.015)	0.002 (0.011)	0.001 (0.001)
Frequency of SMC meet	-0.022 (0.012)	0.003 (0.014)	-0.004 (0.012)	0.001 (0.001)
Community managed schools	-0.002 (0.032)	0.005 (0.024)	0.002 (0.020)	-0.023 (0.023)
Social Audit	0.016 (0.017)	-0.035 (0.026)	-0.031 (0.028)	-0.032** (0.010)
Financial Audit	0.026 (0.025)	-0.032 (0.020)	-0.021 (0.012)	0.018 (0.027)
<i>Individual Or Household Characteristics</i>				
Female	-0.006 (0.011)	-0.017 (0.012)	-0.018* (0.009)	
Dalit	-0.008 (0.012)	-0.030** (0.011)	-0.032** (0.010)	
Asset Q2	-0.010 (0.019)	-0.044 (0.029)	-0.048 (0.032)	
Asset Q3	0.010 (0.012)	-0.049* (0.024)	-0.043 (0.026)	
Asset Q4	0.004 (0.008)	-0.054 (0.030)	-0.052 (0.030)	
Asset Q5	0.002 (0.009)	-0.026 (0.023)	-0.026 (0.023)	
<i>Distance to road or DEO/ Region</i>				
Distance to Road (within 30min)	0.008 (0.024)	-0.029 (0.025)	-0.025 (0.018)	0.007 (0.015)
Distance to Road (30min-hr)	0.032	-0.088* (0.023)	-0.075** (0.023)	0.001

	(0.049)	(0.038)	(0.025)	(0.026)
Distance to Road (1 hr plus)	0.025	0.015	0.026**	0.008
	(0.043)	(0.017)	(0.008)	(0.017)
Distance to DEO (1-2 hrs)	-0.061**	0.100***	0.077**	0.012
	(0.020)	(0.023)	(0.027)	(0.016)
Distance to DEO (2-5 hrs)	0.001	0.033	0.032	-0.005
	(0.024)	(0.033)	(0.030)	(0.018)
Distance to DEO (5 hrs plus)	-0.034**	0.064*	0.048	-0.034
	(0.014)	(0.029)	(0.028)	(0.020)
Mountain	0.138*	0.002	0.051*	-0.020
	(0.061)	(0.024)	(0.026)	(0.021)
Hill	0.061	0.001	0.024	0.005
	(0.041)	(0.020)	(0.020)	(0.016)
Constant	0.366***	0.720***	0.904***	0.906***
	(0.102)	(0.063)	(0.058)	(0.017)
N	7609	7399	7416	434
R²	0.034	0.040	0.164	-0.006

Source : Authors' estimates using survey data

Note: (1) First three columns are estimated using linear probability model (LPM) and the last fourth column is estimated using ordinary least square (OLS). (2) Household's Perception on Teacher Absenteeism is an indicator variable, 1 if the household rated teacher absenteeism as serious and zero otherwise. Household satisfaction is an indicator variable, 1 if the household responded being satisfied with teacher and zero otherwise. Teacher attendance is a proportion of teacher present during school visit. (3) Standard errors are clustered at primary sampling unit and shown in parentheses.

*** 1% , ** 5% and * 10 % significance level.

A4. Table 6: Student attendance and service delivery

	Primary Students Attendance		Secondary Students Attendance	
	All (1)	Girls (2)	All (1)	Girls (2)
<i>Service delivery</i>				
Student-Teacher ratio	-0.001***		-0.000	
	(0.000)		(0.000)	
Girl student-Female teacher ratio		-0.001		0.001**
		(0.000)		(0.000)
Teacher Attendance	0.091*	0.078	0.130	-0.198*
	(0.044)	(0.048)	(0.174)	(0.103)
Full textbook	0.073***	0.088***	0.023	0.067*
	(0.017)	(0.020)	(0.032)	(0.033)
Scholarship	0.038**	0.057*	0.052	0.123***
	(0.015)	(0.027)	(0.035)	(0.032)
<i>School Accountability and Management</i>				
Has PTA	0.094***	0.110**	0.096**	0.234***
	(0.025)	(0.040)	(0.031)	(0.063)
Frequency of PTA meeting	0.006	0.009	-0.014	-0.036
	(0.005)	(0.011)	(0.011)	(0.025)

Frequency of monitoring activities	-0.013	-0.018	-0.003	-0.048
	(0.026)	(0.023)	(0.019)	(0.034)
Frequency of SMC meet	0.022	0.014	0.014	0.019
	(0.021)	(0.022)	(0.025)	(0.020)
Community managed schools	0.021	0.014	0.062*	0.110**
	(0.034)	(0.030)	(0.031)	(0.044)
Social Audit	0.044	0.032	-0.039	-0.231*
	(0.045)	(0.044)	(0.088)	(0.100)
Financial Audit	-0.020	-0.007	-0.022	0.072
	(0.023)	(0.031)	(0.053)	(0.079)
<i>Individual and HH Characteristics</i>				
Female	-0.028*	.	-0.020	.
	(0.013)	.	(0.021)	.
Dalit	-0.035**	-0.026	-0.053***	-0.022
	(0.013)	(0.018)	(0.013)	(0.054)
Asset Q2	-0.038**	-0.029	-0.058*	-0.059
	(0.012)	(0.022)	(0.026)	(0.038)
Asset Q3	-0.021*	-0.022	0.001	-0.050
	(0.010)	(0.014)	(0.025)	(0.028)
Asset Q4	-0.005	-0.009	-0.002	-0.020
	(0.012)	(0.016)	(0.031)	(0.024)
Asset Q5	-0.006	-0.006	0.009	-0.047**
	(0.016)	(0.019)	(0.016)	(0.016)
<i>Distance to road or DEO/ Region</i>				
Distance to Road (within 30min)	-0.005	0.013	-0.037	0.022
	(0.023)	(0.032)	(0.024)	(0.046)
Distance to Road (30min-hr)	-0.048**	-0.030	-0.125	0.004
	(0.017)	(0.020)	(0.075)	(0.035)
Distance to Road (1 hr plus)	-0.034	-0.007	-0.033	0.057
	(0.023)	(0.029)	(0.023)	(0.042)
Distance to DEO (1-2 hrs)	0.104***	0.111***	0.049	0.026
	(0.015)	(0.015)	(0.029)	(0.058)
Distance to DEO (2-5 hrs)	0.064**	0.077**	0.054	-0.005
	(0.026)	(0.032)	(0.053)	(0.031)
Distance to DEO (5 hrs plus)	0.128***	0.125***	0.071	0.029
	(0.037)	(0.037)	(0.075)	(0.050)
Mountain	0.013	0.028	0.051	0.041
	(0.037)	(0.038)	(0.054)	(0.042)
Hill	-0.029	-0.025	-0.061***	-0.029
	(0.031)	(0.033)	(0.015)	(0.017)

Constant	0.397***	0.340***	0.565***	0.711***
	(0.059)	(0.069)	(0.123)	(0.157)
N	6192	3094	1341	306
R2	0.180	0.232	0.130	0.397

Source : Authors' estimates using survey data

Note: Estimated using OLS. Standard errors are clustered at primary sampling unit and shown in parentheses.

*** 1% , ** 5% and * 10 % significance level.

A4. Table 7: School level performance and service delivery

	Attendance (1)	Promotion (2)	Dropout (3)	Repetition (4)
<i>Service Delivery</i>				
Student-teacher ratio	-0.003***	-0.002***	0.001	0.001**
	(0.001)	(0.001)	(0.001)	(0.000)
Teacher Attendance	0.292***	0.064	-0.075	0.003
	(0.062)	(0.062)	(0.066)	(0.045)
Full textbook receipt	0.029	0.019	0.022	-0.015
	(0.020)	(0.020)	(0.021)	(0.014)
<i>School Accountability and Management</i>				
Has PTA	0.059*	-0.001	0.017	0.039
	(0.036)	(0.035)	(0.037)	(0.026)
Frequency of PTA meeting	0.002	0.029**	-0.007	-0.004
	(0.014)	(0.014)	(0.014)	(0.010)
Frequency of monitoring activities	-0.009	0.009	0.004	-0.021*
	(0.016)	(0.016)	(0.017)	(0.012)
Frequency of SMC meet	-0.006	-0.002	0.001	0.004
	(0.017)	(0.018)	(0.018)	(0.012)
Community managed schools	-0.021	0.039*	-0.000	-0.010
	(0.022)	(0.022)	(0.023)	(0.016)
Do Social Audits	0.046	-0.027	-0.018	0.020
	(0.029)	(0.028)	(0.030)	(0.021)
Do Financial Audits	-0.030	0.021	0.048**	-0.005
	(0.019)	(0.019)	(0.020)	(0.014)
Primary	-0.089***	-0.092***	0.085***	0.095***
	(0.021)	(0.021)	(0.022)	(0.015)
<i>Distance to road or DEO/ Region</i>				
Distance to Road (within 30min)	-0.020	-0.005	0.012	0.021
	(0.022)	(0.022)	(0.023)	(0.016)
Distance to Road (30min-hr)	0.025	-0.025	0.003	0.023
	(0.033)	(0.032)	(0.033)	(0.024)
Distance to Road (1 hr plus)	-0.002	-0.016	-0.043	0.027

	(0.028)	(0.027)	(0.028)	(0.020)
Distance to DEO (1-2 hrs)	0.020	0.049	-0.023	-0.007
	(0.032)	(0.032)	(0.034)	(0.023)
Distance to DEO (2-5 hrs)	-0.016	-0.009	-0.019	0.013
	(0.030)	(0.030)	(0.031)	(0.021)
Distance to DEO (5 hrs plus)	0.001	0.002	0.004	0.015
	(0.031)	(0.031)	(0.032)	(0.023)
Mountain	0.035	-0.098***	0.124***	0.048*
	(0.036)	(0.037)	(0.038)	(0.026)
Hill	-0.040*	-0.071***	-0.026	0.034**
	(0.023)	(0.024)	(0.025)	(0.017)
Constant	0.455***	0.707***	0.242***	0.016
	(0.083)	(0.085)	(0.087)	(0.060)
N	432	400	420	430
R²	0.135	0.124	0.055	0.126

Source : Authors' estimates using survey data

Note: (1) Estimated using ordinary least square (OLS). (2) Dependent variables are continuous variables ranging 0 to 1. (3) Standard errors are clustered at primary sampling unit and shown in parentheses.

*** 1% , ** 5% and * 10 % significance level.

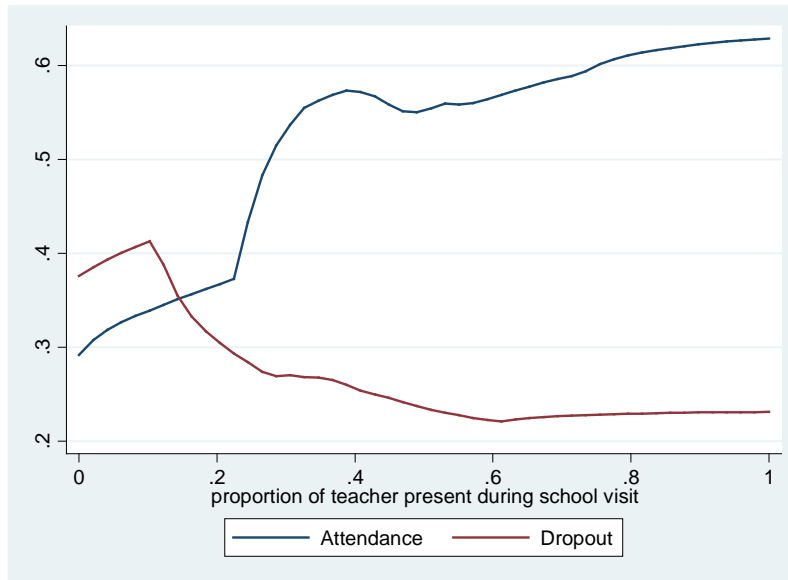
A4. Table 8: Correlation between attendance, promotion and dropout

	Attendance (1)	Promotion (2)	Dropout (3)
Attendance	1		
Promotion	0.0534	1	
Dropout	-0.1737*	0.0472	1

Source : Authors' estimates using survey data

Note: pairwise correlation matrix; * indicates at 5% significance level

A4. Figure 3 Dropout and Attendance in relationship with teacher attendance



Source : Authors' estimates using survey data
 Note: log polynomial smooth

A4. Table 9: Student and parents satisfaction and service delivery

	Students		Parents	
	All	Girls	All	Girls
Service Delivery				
Student-Teacher Ratio	0.002*	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Teacher attendance	0.099	0.058	0.097	0.120
	(0.061)	(0.126)	(0.063)	(0.113)
Full textbook receipt	0.090**	0.114***	0.058*	0.052
	(0.031)	(0.027)	(0.029)	(0.043)
Scholarship	0.039	0.061	0.020	0.013
	(0.029)	(0.051)	(0.032)	(0.045)
School Management				
Has PTA	-0.014	0.022	0.073*	0.088*
	(0.024)	(0.026)	(0.038)	(0.046)
Frequency of PTA meeting	0.023	0.016	0.029**	0.034*
	(0.020)	(0.017)	(0.012)	(0.017)
Frequency of monitoring activities	0.007	0.007	0.005	0.003
	(0.011)	(0.012)	(0.017)	(0.022)
Frequency of SMC meet	-0.021	-0.032	0.005	-0.004
	(0.020)	(0.029)	(0.015)	(0.024)
Community managed schools	0.049*	0.042	0.007	-0.022

	(0.026)	(0.027)	(0.029)	(0.037)
Social Audit	0.026	0.009	-0.034	-0.038
	(0.052)	(0.064)	(0.024)	(0.027)
Financial Audit	-0.018	-0.032	-0.038*	-0.056**
	(0.041)	(0.043)	(0.020)	(0.024)
Individual and HH Characteristics				
Female	-0.059**	.	-0.025	.
	(0.024)	.	(0.019)	.
Dalit	-0.027	-0.035	-0.038**	-0.043***
	(0.016)	(0.020)	(0.012)	(0.012)
Asset Q1, ref. Asset Q5	-0.007	-0.010	-0.047	-0.034
	(0.018)	(0.035)	(0.032)	(0.034)
Asset Q2, ref. Asset Q5	-0.032	-0.051	-0.049*	-0.047
	(0.022)	(0.041)	(0.025)	(0.028)
Asset Q3, ref. Asset Q5	-0.045	-0.078	-0.053	-0.047**
	(0.031)	(0.055)	(0.029)	(0.018)
Asset Q4, ref. Asset Q5	-0.035	-0.048	-0.026	-0.027
	(0.024)	(0.036)	(0.023)	(0.025)
Distance to road or DEO/ Region				
Distance to Road (within 30min)	-0.048	-0.065	-0.033	-0.043
	(0.036)	(0.041)	(0.022)	(0.026)
Distance to Road (30min-hr)	-0.032	-0.037	-0.086*	-0.101*
	(0.036)	(0.035)	(0.039)	(0.053)
Distance to Road (1 hr plus)	-0.043	-0.073	0.016	0.034
	(0.038)	(0.046)	(0.019)	(0.033)
Distance to DEO (1-2 hrs)	0.082	0.121	0.087***	0.059
	(0.061)	(0.073)	(0.025)	(0.035)
Distance to DEO (2-5 hrs)	0.121**	0.137**	0.024	-0.004
	(0.045)	(0.055)	(0.031)	(0.031)
Distance to DEO (5 hrs plus)	0.144**	0.181**	0.059*	0.019
	(0.050)	(0.059)	(0.030)	(0.031)
Mountain	0.114	0.151	0.011	-0.002
	(0.094)	(0.102)	(0.030)	(0.035)
Hill	0.047	0.046	0.003	0.005
	(0.060)	(0.056)	(0.022)	(0.018)
Constant	0.389***	0.390***	0.646***	0.679***
	(0.061)	(0.097)	(0.094)	(0.135)
N	7591	4029	7386	3908
R2	0.033	0.047	0.043	0.048

Source : Authors' estimates using survey data

Note: standard errors in parentheses, *** 1% , ** 5% and * 10 % significance level.

The models are as follows: (1) Estimated using linear probability model (LPM). (2) The dependent variable for student satisfaction is an indicator variable, 1 if the student reported satisfied with teacher's answer and zero otherwise. The dependent variable for parents satisfaction is an indicator variable, 1 if the parents reported satisfied with school teacher and zero otherwise. (3) Standard errors are clustered at primary sampling unit and shown in parentheses. .

A4. Table 10: Parents and Teacher Interaction

	Parents-teacher Interaction
Service Delivery	
Teacher Attendance Rate	-0.132*
	(0.064)
Having full set of textbook	-0.020
	(0.037)
Scholarship	0.025
	(0.023)
School Accountability and Management	
Has PTA	0.009
	(0.033)
Frequency of PTA meet	-0.006
	(0.016)
Frequency of monitoring activities	0.000
	(0.013)
Frequency of SMC meet	0.002
	(0.006)
Community managed schools	0.072
	(0.044)
Social Audit	-0.081*
	(0.036)
Financial Audit	-0.013
	(0.021)
Ind. Or HH. Characteristics	
Female	-0.049**
	(0.015)
Dalit	0.016
	(0.043)
Asset Q1	-0.194***
	(0.005)
Asset Q2	-0.128***
	(0.016)
Asset Q3	-0.095***
	(0.018)
Asset Q4	-0.062***
	(0.012)
Distance to road or DEO/	
Distance to Road (within 30min)	-0.033

	(0.038)
Distance to Road (30min-hr)	-0.060
	(0.032)
Distance to Road (1 hr plus)	-0.001
	(0.027)
Distance to DEO (1-2 hrs)	-0.005
	(0.021)
Distance to DEO (2-5 hrs)	0.022
	(0.021)
Distance to DEO (5 hrs plus)	0.123***
	(0.031)
Mountain	0.089
	(0.053)
Hill	0.126**
	(0.053)
Constant	0.878***
N	6234
R²	0.040

Source : Authors' estimates using survey data

Note: (1) Estimated using linear probability model (LPM). (2) The dependent variable is an indicator variable, 1 if parents reported having met teacher to discuss about children's performance and zero otherwise. (3) Standard errors are clustered at primary sampling unit and shown in parentheses.

*** 1% , ** 5% and * 10 % significance level.