



Building Better Learning Environments in the Philippines

Introduction

Evidence from around the world has shown that improving school infrastructure leads to better learning outcomes.¹ For example, a 2011 review of the economics literature over the last 20 years showed that the availability of basic school infrastructure (such as classrooms, desks, and chairs) and facilities (such as electricity, libraries, and blackboards) is frequently associated with better student learning achievement.² These findings have been backed up by a systematic review of recent impact evaluations, which showed that infrastructure investments have a positive impact on school enrollment rates, attendance rates, and learning achievement.³ Also, research in the Philippines has shown that reducing the number of students per classroom is associated with better student learning outcomes, particularly in rural schools.⁴

Ensuring that schools have adequate infrastructure of good quality is a central pillar of government efforts to improve education outcomes in the Philippines. Over the last five years, the government has been conducting a renewed reform effort to increase access to good quality basic education. It has supported these reform efforts with significant increases in public spending on education. In real terms, school infrastructure spending in 2015 was five times higher than in 2010 and has been used to reduce classroom congestion and the proportion of schools operating multiple shifts.

The purpose of this policy note is to provide a snapshot of the state of existing school infrastructure in the Philippines and to assess the government systems that build and repair school buildings and facilities. The findings come from a comprehensive survey of the public education system carried out for the Philippines Public Education Expenditure Tracking and Quantitative



This note is part of a series outlining analysis and results from the Philippines Public Expenditure Tracking and Quantitative Service Delivery Study conducted by the Department of Education and the World Bank with the support of the Australian Government through the Australia-World Bank Philippines Development Trust Fund.

Box 1: The Philippines Public Education Expenditure Tracking and Quantitative Service Delivery Study

The aim of the Philippines Public Education Expenditure and Quantitative Service Delivery Study has been to answer four main questions on the use of the public education budget:

1. *Resource flow, management, and control.* What factors prevent resources from reaching their intended destination in a timely and transparent manner?
2. *Existence, use, and financing of inputs at the school level.* Do schools have access to essential inputs and how effective are the systems that govern their use?
3. *Equity.* How do the resources available to schools and the systems that manage these resources differ among regions and socioeconomic groups?
4. *School performance and resources.* How and why does the performance of schools differ and what drives those differences?

The study has tracked over 80 percent of the national government education budget (including teacher salaries and training, school maintenance and operating expenses, construction, and learning materials) as well as local government spending on basic education.

In order to assess how funds flow and how they are used at the school level, the study team conducted a nationally representative survey of government institutions and public schools in the last quarter of 2014. The Autonomous Region in Muslim Mindanao was excluded from the study because government funds for this region are managed separately and flow to schools through a different mechanism. In addition, integrated schools (which offer both elementary and high school education) and schools that did not have final grade elementary and high school students were excluded from the sample, primarily because the study aimed to measure outcomes at the end of elementary school and at the end of high school.

The sample for the survey included all regional offices of the Department of Education (DepEd) and the Department of Budget and Management (DBM), 51 division and 113 district offices of DepEd, 54 district engineering offices of the Department of Public Works and Highways, 74 provincial and city/municipality local governments, 249 public elementary schools, and 200 public high schools. At the school level, interviewers administered a questionnaire to each parent-teacher association, assessed the competencies of approximately 1,500 teachers, and interviewed 2,200 student households.

The data collected were used to explore the systems that govern the use of public funds and to assess how the availability of resources differed among schools. The study team combined information on the flow of funds to schools with information on school characteristics and quality to evaluate how financing and governance affected school performance.

Service Delivery Study (PETS-QSDS) that tracked public education expenditure and assessed the quality of education services (see Box 1). In assessing government systems, it primarily focused on projects managed by the Department of Public Works and Highways (DPWH), which is responsible for the bulk of school infrastructure projects.

The note finds that, while there is a continuing need to invest in school infrastructure, any increases need to be combined with efforts to improve allocation mechanisms and project implementation. The note also finds that existing monitoring, coordination, and accountability mechanisms are weak. The note argues that increasing the involvement of schools in

the planning, implementation, and monitoring process is a promising route to ensuring that all students are provided with good quality schools and learning environments.

The Current State of School Infrastructure

The bulk of public school infrastructure in the Philippines was built using funds from national and local governments, with only a limited proportion built using funds from private sector sources. For example, in 2014 approximately three-

quarters of all instructional rooms in elementary and around two-thirds of rooms in high schools were built by the central government. Local governments were responsible for building around 10 percent of instructional rooms across the whole country, although wealthier city governments have played a much more significant role than their counterparts elsewhere with approximately one-quarter of all instructional buildings being built with local government funds in highly urbanized cities.⁵

While high schools tend to be better equipped than elementary schools, around one-third have no safe source of drinking water (Figure 1). This is partly because more high schools than elementary schools are located in urban areas where they rely on piped water and do not have access to alternative sources such as drinking wells. When schools do not have access to safe drinking water, this can be detrimental to attendance and learning, particularly when students and teachers have to leave the school premises to collect water.

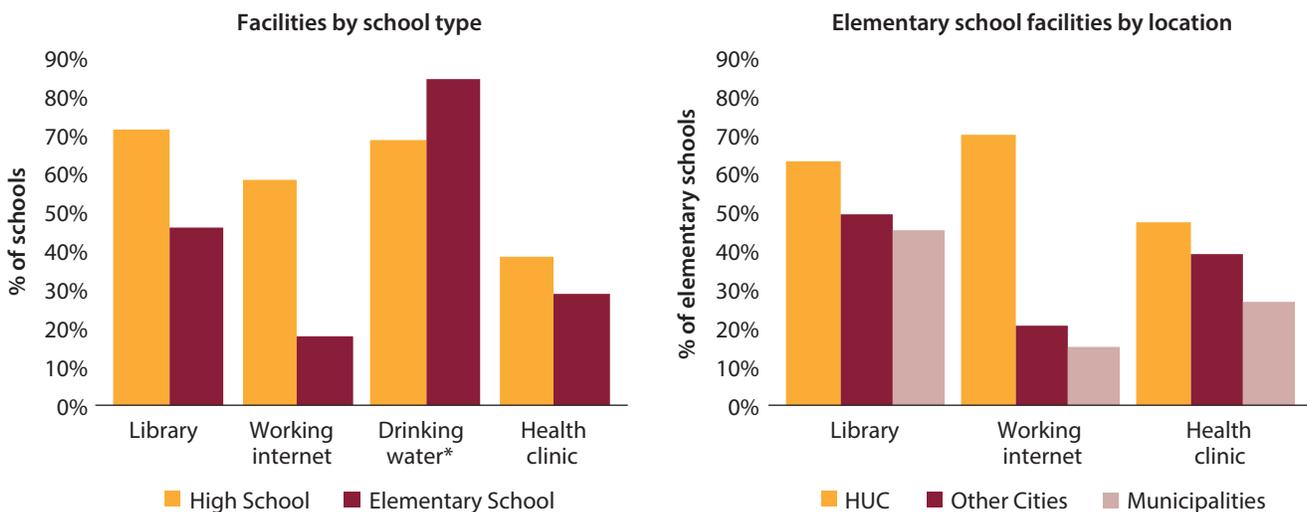
Schools in municipalities tend to have more limited facilities than those in cities. Municipalities include almost all rural areas in the Philippines, and rural schools tend to be less well equipped than their urban - and generally wealthier - counterparts. For example, elementary schools in highly urbanized cities are almost twice as likely as schools in municipalities to have a health clinic (Figure 1).

However, schools in more densely populated areas tend to be larger and have more congested learning environments. Schools, particularly high schools, tend to be much larger in city and urban areas. For example, in 2014 the average high school in a highly urbanized city had approximately 1,700 students compared to about 1,000 students and 570 students in city and municipality schools respectively. These large numbers translate into more students in each classroom in highly urban areas (Figure 2). On average, 51 high school students share each classroom in highly urbanized cities compared with only 39 students per classroom in municipal schools. Moreover, around 30 percent of high schools in these highly urbanized cities have student/ instructional room ratios in excess of 55. While this is not a measure of class size because double shifting is more commonplace in cities, it does point to the greater intensity of use of school facilities in urban areas. This is likely to result in the need for larger upkeep and maintenance resources for schools in these areas.

In 2014, the study found that approximately one in seven of all elementary and high school instructional rooms in the Philippines to be unsuitable for teaching and learning. On the whole, a larger share of elementary school infrastructure than high school infrastructure was of poor quality (Figure 2). Given the much larger numbers of elementary schools in the Philippines, these findings suggest that a larger share of resources would be needed

Figure 1: High Schools Tend to Have Better Facilities than Elementary Schools

Availability of key facilities in elementary and high schools, 2014

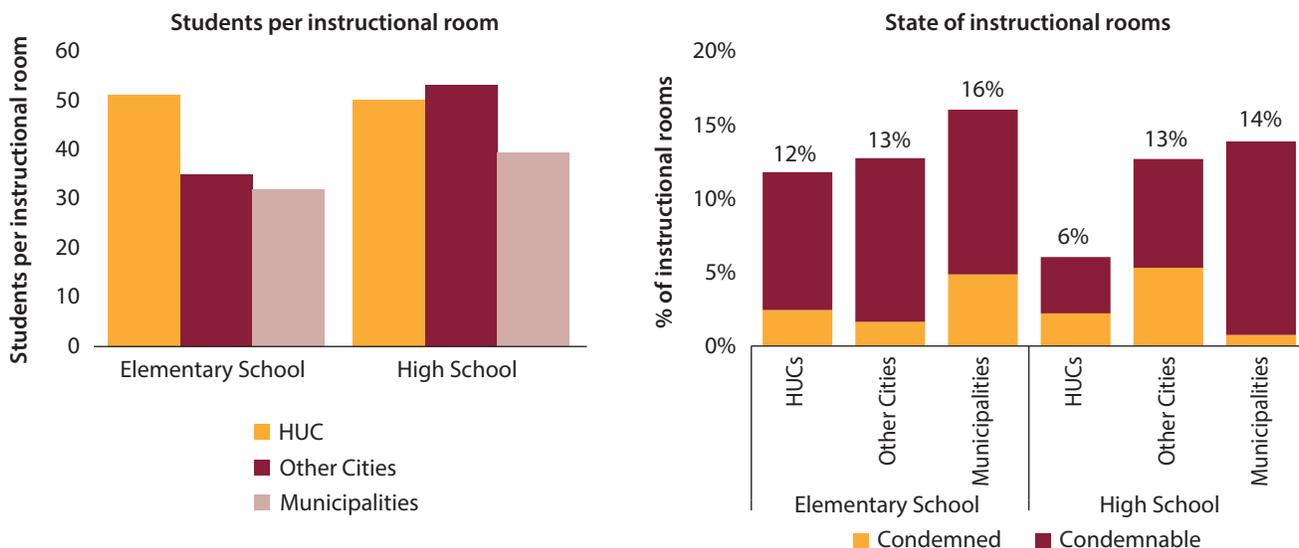


Source: PETS-QSDS national survey – school level data.

Note: * Drinking water only includes piped, well, and natural sources.

Figure 2: School Facilities Tend to be Used by More Students in Urban Areas

Intensity of use and quality of classrooms, 2014



Source: PETS-QSDS national survey – school-level data.

Note: DepEd’s definitions of condemned and condemnable instructional rooms are used.

at this level to address shortcomings in the existing stock of classrooms. Fewer classrooms in cities tend to be classified as condemned or condemnable than in municipalities despite their greater intensity of use. This may reflect their greater ability to maintain their facilities because city schools tend to receive more resources from local governments and their communities that can be used for this purpose.

Aggregate statistics on the availability and quality of school infrastructure often do not adequately represent the true learning environment in schools. Most statistics use student-classroom ratios as a proxy for the average number of students taught together. However, many schools operate more than one shift during the school day, and student groupings and timetables often mean that class sizes are very different to the simple averages recorded in official statistics at the school level. For example, approximately 23 percent of both elementary and high schools in the study reported operating more than one shift in at least one grade. To get a better picture of the real learning environment faced by students, around 7,000 classes and classrooms were observed as part of the Philippines Public Education Expenditure Tracking and Quantitative Service Delivery Study (PETS-QSDS).

These classroom observations revealed that class sizes were much smaller than official statistics on student-classroom ratios

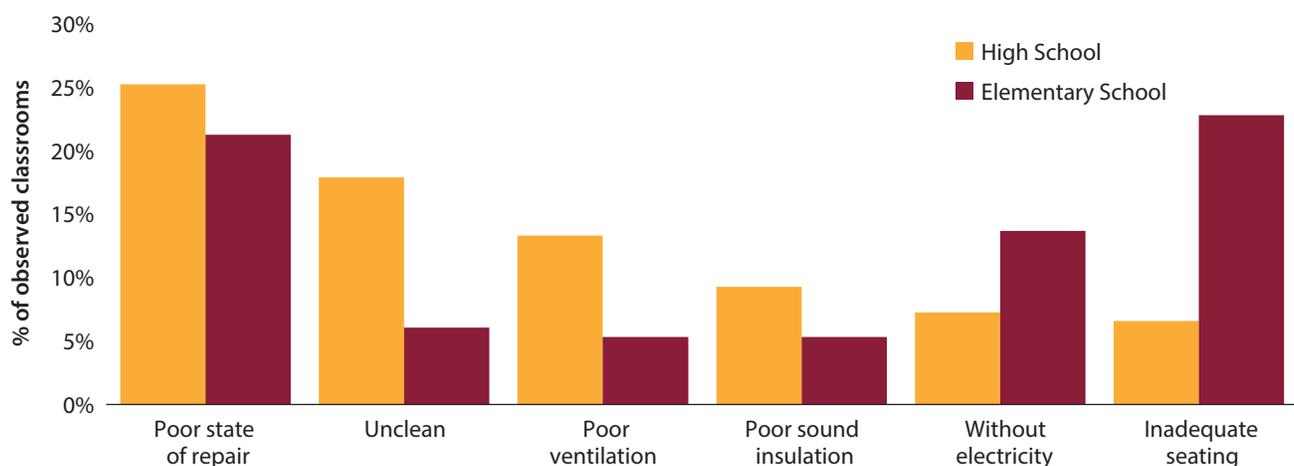
suggest. The average class size observed by the study in 2014 was 34 in high schools and 27 in elementary schools. This is below DepEd’s guidelines on ideal class sizes, which range from 40 to 55 students. According to the study, only 5 percent of classrooms in elementary schools and 12 percent in high school had more than 45 students being taught at the same time.

A significant number of classrooms used by schools for teaching were judged by the enumerators of the PETS-QSDS survey to be in a relatively poor state of repair in 2014 (Figure 3). The survey enumerators found that over 20 percent of classrooms in both elementary and high schools were in a poor state of repair. While the enumerators were not specifically trained to assess the quality of infrastructure, these findings do raise concerns about the impact that this may have on student learning.

The more intensive use of high school infrastructure also affects the learning environment negatively. In most cases, high schools have poorer indicators of the overall learning environment than smaller and less crowded elementary schools. For example, as of 2014, a greater proportion of high school classrooms tended to suffer from poor ventilation and insulation and to be less clean than elementary classrooms (Figure 3). In contrast, far fewer elementary classrooms than high school classrooms appeared to have adequate seating for all students.

Figure 3: A Significant Proportion of Classrooms Were Observed to Be of Poor Quality

Indicators of classroom quality from direct classroom observation



Source: PETS-QSDS national survey – classroom observations at the school level.

While most schools meet DepEd’s service standards, a significant proportion do not, particularly in highly urbanized cities. The government’s medium-term expenditure framework highlights a number of key service standards that DepEd is seeking to achieve.⁶ In particular, DepEd aims to eliminate multiple shifts in all schools and has set a target for student-classroom ratios of between

45 and 55 in most elementary and high school grades.⁷ Over 94 percent of elementary schools and 83 percent of high schools have student-classroom ratios that fall within or below that range (Table 1). However, 24 percent of elementary and 30 percent of high schools in highly urbanized cities have student-classroom ratios well above the maximum set out in DepEd standards.

Table 1: Percentage of Schools that Failed to Meet DepEd Service Standards, 2014

	Elementary Schools				High Schools			
	HUCs	Other Cities	Municipalities	All schools	HUCs	Other Cities	Municipalities	All schools
Students per instructional room								
Fewer than 45	46	74	87	84	61	40	70	66
Between 45 and 55	30	19	9	10	9	16	19	17
More than 55	24	7	4	6	30	44	11	17
Students per toilet								
More than 50: Girls	41	22	21	22	70	56	32	38
More than 50: Boys	35	14	19	19	65	49	33	37
Students per seat								
More than 1	21	24	23	23	7	6	7	7

Source: PETS-QSDS national survey – classroom data at the school level.

Notes: Assumes that a trough urinal can be used by two boys. Unisex toilets are counted in both boys’ and girls’ totals. All students, including kindergarten and special education students, are included in the calculations. Numbers of students per seat are taken from classroom observations and relate to the percentage of classrooms rather than schools.

A large proportion of schools also fail to meet DepEd standards regarding sanitation facilities (Table 1). In particular, around one-third of high schools fail to meet the 50 students per toilet standard. The proportion of schools failing to meet sanitation standards is much higher in city schools than in municipal schools. For example, 70 percent of high schools in highly urbanized cities have ratios of female students to toilets in excess of 50.

An Assessment of Existing Government Efforts to Improve School Infrastructure

In 2013, approximately two-thirds of all infrastructure projects taking place in basic education schools were funded by the Department of Education. Local governments provided 13 percent of project funding, while the rest of the projects were largely financed from congressional funds, by the private sector, or by non-governmental organizations.

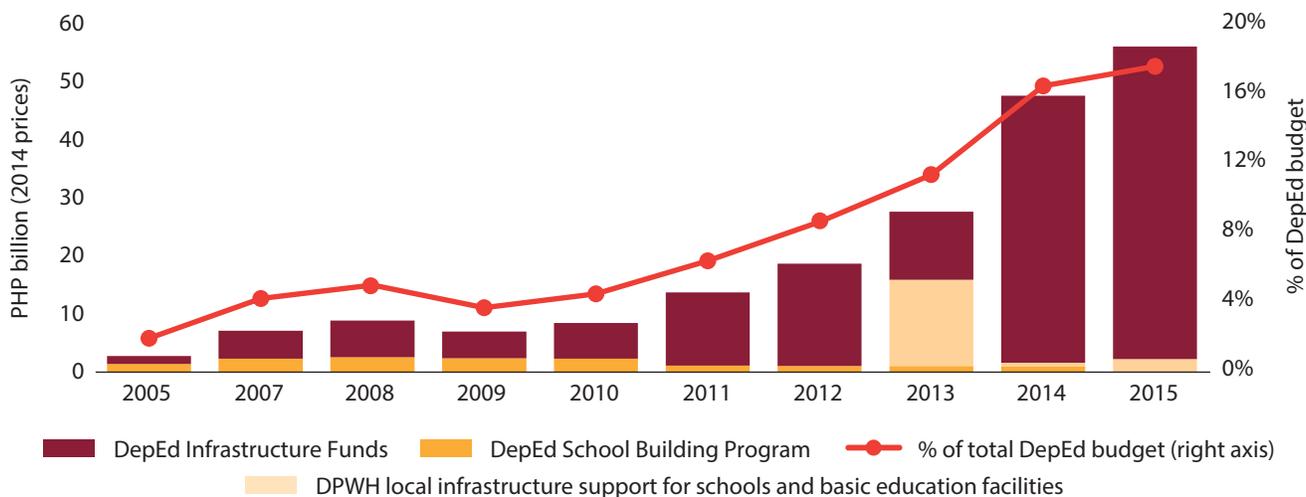
The government budget devoted to improving and expanding school infrastructure has risen rapidly in recent years (Figure 4). Recognizing the backlog in school infrastructure needs, the government has devoted an ever-increasing share of the budget to construction and rehabilitation. In 2005 only around 2 percent of the budget was used for infrastructure, but this had increased to 18 percent by 2015. Given the increasing size of the overall education budget, this has meant that infrastructure spending has increased nineteen-fold in real terms since 2005.

The increased priority afforded to school infrastructure in the national budget has resulted in a large increase in the number of classrooms built, which has eased congestion, particularly in high schools. National statistics show that between 2005 and 2013 an additional 122,000 elementary and high school classrooms were built, increasing the overall stock to 477,000. These increases have also reduced student-classroom ratios particularly in high schools. Between 2005 and 2013, the average number of students per classroom fell from 70 to 47 in high schools.

While the Department of Education maintains overall control over the selection of projects, most projects

Figure 4: Government Spending on School Infrastructure Has Been Rising Rapidly

Trends in government school infrastructure spending, 2005-2015



Source: Department of Budget and Management.

Note: All figures are appropriations. DepEd school infrastructure funds include all DepEd infrastructure spending including funds under construction of elementary and high schools in areas experiencing acute classroom shortages prior to 2011 and the Basic Education Facilities Fund (BEFF) from 2011 onwards. In 2013, the Department of Public Works and Highways (DPWH) received an appropriation for the BEFF directly. The 2014 and 2015 figures also include separate DPWH programs for local infrastructure support to schools.

Table 2: Characteristics of School Infrastructure Projects, 2013

	Basic Education Facilities Fund			School Building Program
	Construction	Water and Sanitation	Repair	
Projects				
Elementary Schools	3,597	8,794	1,656	505
High Schools	1,765	3,768	367	189
Classrooms built/repaired				
Elementary Schools	8,204		5,696	1,081
High Schools	6,524		1,749	496
Toilets (urinals and bowls)				
Elementary Schools	3,012	32,607	-	-
High Schools	4,795	18,355	-	-
Hand washroom counters				
Elementary Schools	-	34,224	-	-
High Schools	-	19,878	-	-
Allocation (PHP billions)				
Elementary Schools	7.1	3.5	0.9	0.6
High Schools	6.9	1.9	0.3	0.3
Other	-	1.3	0.1	0.1
Allocation (%)				
Elementary Schools	51	52	69	60
High Schools	49	28	23	30

Source: DepEd central office construction project list, 2013.

Note: Estimates drawn from school project lists for each funding source. Of the 1,081 elementary and 496 high school classrooms, 674 elementary and 325 high school classrooms were newly constructed while 325 and 171 respectively were repaired.

have recently been managed and implemented by the Department of Public Works and Highways (Box 2). Since 2013 the Basic Education Facilities Fund (BEFF) and the School Building Program (SBP) have been the two main budget lines for school infrastructure, with the BEFF accounting for over 95 percent of the total funds. The DPWH manages approximately three-quarters of these funds, most of which are allocated to new construction of classrooms and water and sanitation facilities. The remaining funds are managed by DepEd and used for repair and rehabilitation, additional water and sanitation projects, and the provision of school furniture. Funds managed by DepEd are also devoted to infrastructure projects carried out through the Public Private Partnership scheme.⁸ In the 2013 budget, national government funding was allocated to support the construction of 16,000 classrooms and the repair of 8,000 classrooms and a large number of toilets and washroom facilities (Table 2).

The central office of DepEd identifies priorities and allocates funds for infrastructure projects using information collected annually in the Basic Education Information System (BEIS). First, the office identifies schools with high student-classroom ratios and a lack of water and sanitation facilities. In the second step through site visits, the office verifies the actual condition of facilities and the feasibility of the needed work and finally prepares a list of potential projects that are aligned with the available budget. Once the national budget is approved by Congress, the Department of Budget and Management releases budget allocations to the DPWH and DepEd central offices, which in turn allocate these funds to their local offices in charge of the implementation of the various projects. Projects managed by the DPWH are governed by a set of guidelines that outlines the roles and responsibilities of DepEd and the DPWH during their planning and implementation (see Box 2).

Box 2: Responsibilities for Joint DPWH-DepEd Projects

Each year, DepEd identifies the extent of school infrastructure needs using the Basic Education Information System (BEIS) and develops a list of school-level projects to be carried out by the DPWH using the infrastructure budget appropriations for the year. Once the DepEd central office has selected the projects, it informs the regional and divisional offices who in turn notify the selected schools.

The Schools Division Superintendent (SDS) and the Schools Division Engineer (SDE) within DepEd Division offices are responsible for coordinating with their DPWH counterparts on the procurement and implementation of projects. The main stages where coordination occurs are:

- The DPWH prepares the program of works, undertakes procurement, and implements the works in accordance with DepEd's standard designs and specifications.
- The SDS approves the program of works prepared by the DPWH.
- The staff of DepEd's Physical Facilities and Schools Engineering Division (PFSED) and the Division Physical Facilities Coordinator (DPFC) supervise the DPWH's procurement, monitor the implementation of the projects, and conduct joint inspections of the completed works.
- The DPWH, DepEd's Physical Facilities staff, and the school principals are expected to carry out a joint inspection of the completed works.
- The DepEd SDS and the DPWH District Engineer both approve the Certificate of Completion for each completed project.

Sources: DepEd Memo No. 87 (2015) and DepEd/DPWH joint circular No. 2013-1 (2013).

Allocations

The allocation of government infrastructure resources tends to be broadly in line with need. The study has found that new classroom construction as a proportion of the total existing stock of classrooms was generally higher in those regions with more congested classrooms (Figure 5). For example, in the 2013 budget, funds were allocated to build an additional 800 classrooms (equivalent to 5 percent of the current stock) in the National Capital Region (NCR) where student-classroom ratios were far higher than any other region. Classroom construction in the Autonomous Region in Muslim Mindanao (ARMM) in 2013 was much higher than in other regions, which partly reflects the region's need for additional school places to accommodate out-of-school children.

A closer look reveals that on the whole schools with poorer quality facilities are more likely to be selected for a school improvement project (Figure 5). For example, a higher proportion of the schools that were awarded an infrastructure project in 2013 had no access to drinking water and had fewer classrooms and toilets relative to the size of their student populations compared to schools that did not receive a project.

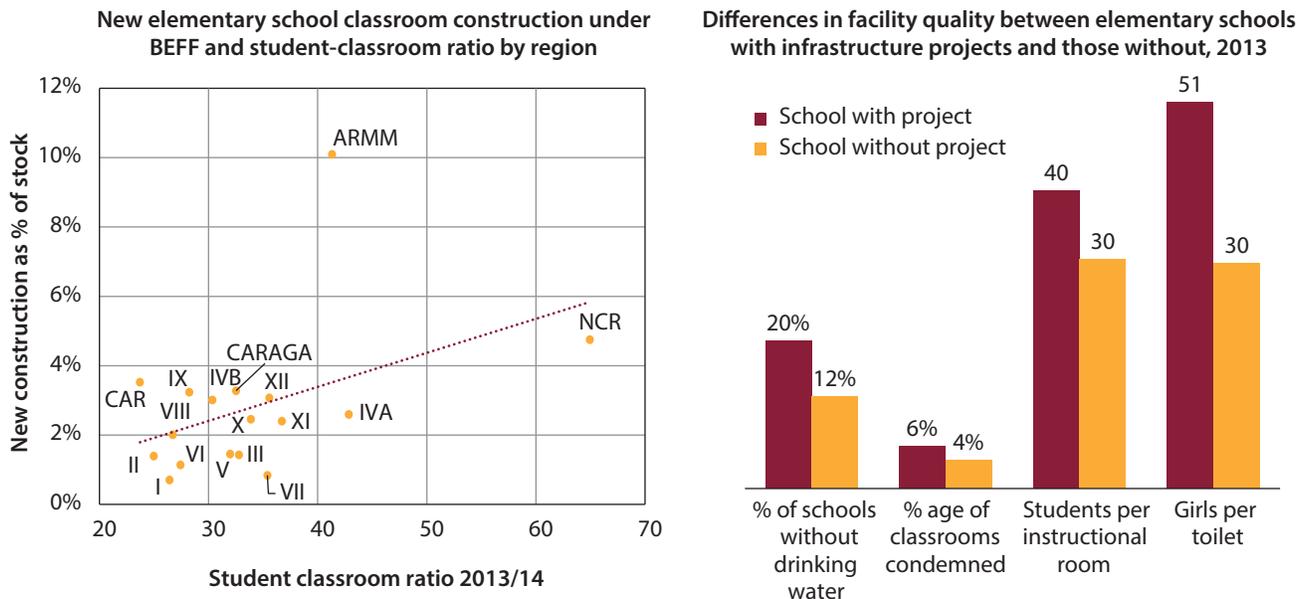
However, there is still significant room to strengthen the link between allocation and need. Approximately half of the elementary schools that had student-classroom ratios in excess of DepEd standards (in other words higher than 55) were selected for a project, while 30 percent of schools with student-classroom ratios well below 45 received school improvement funding. A similar picture emerges regarding sanitation facilities, with 28 percent of elementary schools with a female student to toilet ratio below 50 being selected for a project while only 55 percent of elementary schools with ratios in excess of 60 received support.

Implementation

Utilization rates for school infrastructure funds have been relatively low over the last 10 years (Figure 6). Between 2005 and 2014, only 54 percent of allotments were obligated in the same year they were allocated. With the exception of 2013, DepEd has experienced significant difficulties in utilizing the growing budget for school infrastructure development. For example, in 2014, the utilization rate was only around two-thirds, suggesting that one-third of allocations were not obligated.

Figure 5: New Classroom Construction is Broadly in Line with Need at the Regional Level

Infrastructure needs and project allocations, 2013



Source: Left panel = DepEd central office construction project list (2013) and DepEd EBEIS. Right panel = PETS-QSDS DPWH and DepEd records of school construction projects and school-level information on school facilities.

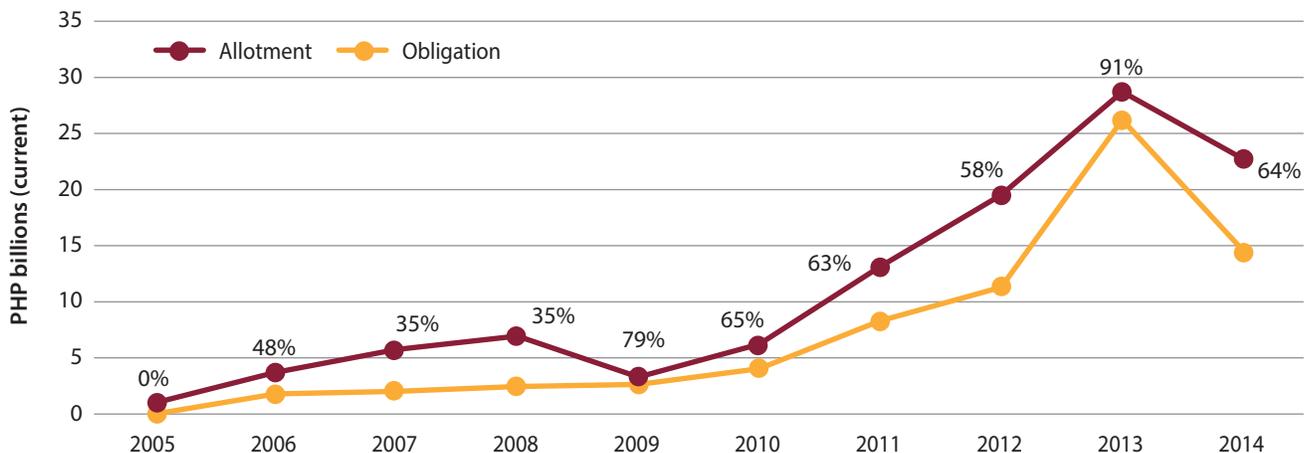
Note: School Building Program construction is not included.

Utilization rates mask large differences in budgeted funds and the amounts actually released in any given year. In the 2013 budget, Congress appropriated approximately PHP 27 billion for school infrastructure improvements, but

only around 70 percent of this appropriation was released in 2013. Even taking into account the releases from this appropriation in the following year (2014), only 74 percent of the 2013 appropriation was finally released. This is a

Figure 6: Utilization Rates for School Infrastructure Have Been Relatively Low

School infrastructure fund allotments, obligations, and utilization rates, 2005-2014



Source: DepEd and DPWH Statement of Appropriations and Obligations, various years

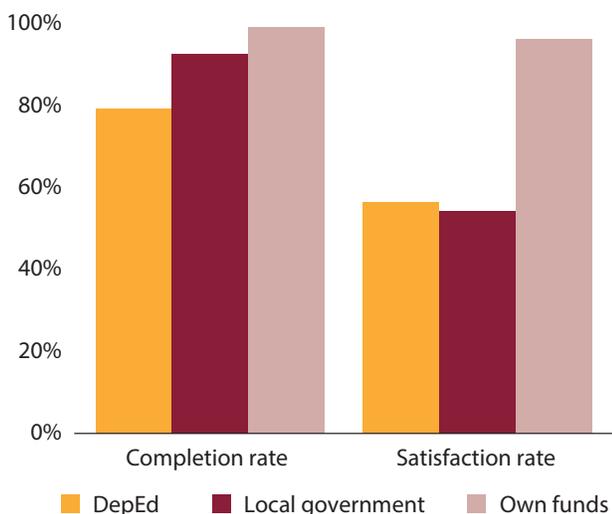
Note: Allotments/obligations for a given year include current, continuing, and extended allotments/obligations. The utilization rate is indicated by the percentage figures in the graph and show the proportion of allotments obligated in a given year.

particular concern given the infrastructure shortages outlined in the previous section and the large increases planned for infrastructure investment in the coming years.⁹

Even when national government projects have been identified and funds have been released, a significant proportion of projects are not completed, which results in low levels of satisfaction at the school level. School staff reported to enumerators of the PETS-QSDS survey that one in five DepEd projects that began in 2013 remained incomplete by the final quarter of 2014 (Figure 7). They cited insufficient funds, other demands on contractors' time, and design issues as the main reasons why projects were not completed. Moreover, completion rates were much higher for local government and school-managed projects than projects managed by DepEd and the DPWH. The high completion rates of school-managed projects is likely to reflect the greater control that schools have over contracts and contractors when they are managing their own resources.

Figure 7: Schools Report Low Levels of Satisfaction with Government-funded Infrastructure Projects

Completion and satisfaction rates for 2013 school infrastructure projects, 2014



Source: PETS-QSDS national survey – infrastructure project information at the school level

Note: Data relates to all school infrastructure projects in 2013. Completion rates are the proportion of 2013 projects that were completed by the last quarter of 2014. DepEd projects include those managed by the DPWH as well as major school repair and water and sanitation projects managed by DepEd Division offices.

Approximately 40 percent of national and local government infrastructure projects undertaken in 2013 were rated as unsatisfactory by schools (Figure 7). The schools reported being much more satisfied with the projects that they managed and financed themselves. A major factor in this dissatisfaction, particularly with projects financed by the national government, is the large number of projects that are left incomplete by contractors. Moreover, approximately three-quarters of schools also mentioned the poor quality of the repairs and new construction as a reason for their dissatisfaction.

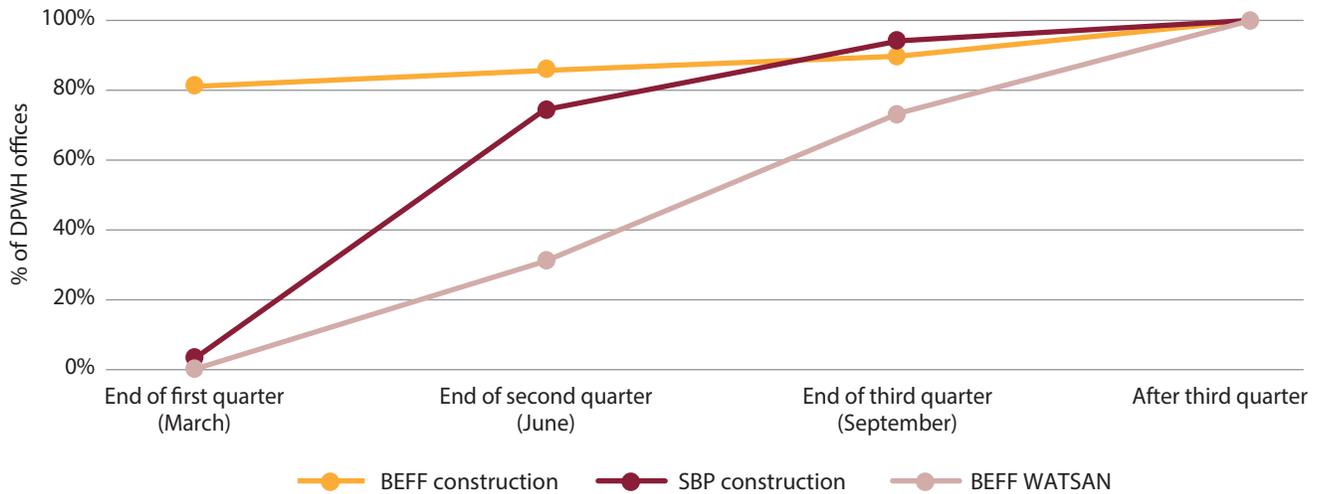
Delays in transferring project lists and financial allocations from DepEd to the local offices responsible for implementing them are the reason for many project implementation delays. Figure 8 shows the proportion of DPWH district engineering offices that had received their infrastructure allocation by the end of each quarter in 2013. It shows that over 80 percent of DPWH district offices had received their 2013 allocation to carry out work on the BEFF construction component by the end of the first quarter. The prompt release of these funds gives district engineering offices time to plan out their infrastructure projects over the course of the financial year. Given that BEFF construction funding represented the bulk of national government infrastructure spending, this is a positive finding. However, around 15 percent of engineering offices did not receive these funds until the end of the second quarter of the year.

Also, the majority of DPWH offices received other infrastructure funds (such as the BEFF water and sanitation and school building program funds) much later in the year. For example, regarding funds from the School Building Program, only around three-quarters of the offices had received their allocations for BEFF water and sanitation projects and fewer than one-third of them had received their allocations for school construction by June. Receiving funds so late in the year limits the time available to implement projects and means that they are still being implemented when the school year starts in June, thus inconveniencing school staff and students.¹⁰

A majority of district engineering offices reported that, even after they have received their resources, they have to overcome many difficulties to implement their projects successfully. Two-thirds of DPWH district engineering offices and all offices in urban areas reported finding it difficult to implement school infrastructure projects, particularly due to a lack of flexibility in the funding of school projects. For example, 62 percent of offices reported that they did

Figure 8: The Timeliness of the Downloading of Infrastructure Allotments from Central Offices Varies by Budget Source

Receipt of project list and first sub-allotment at DPWH district engineering offices¹¹



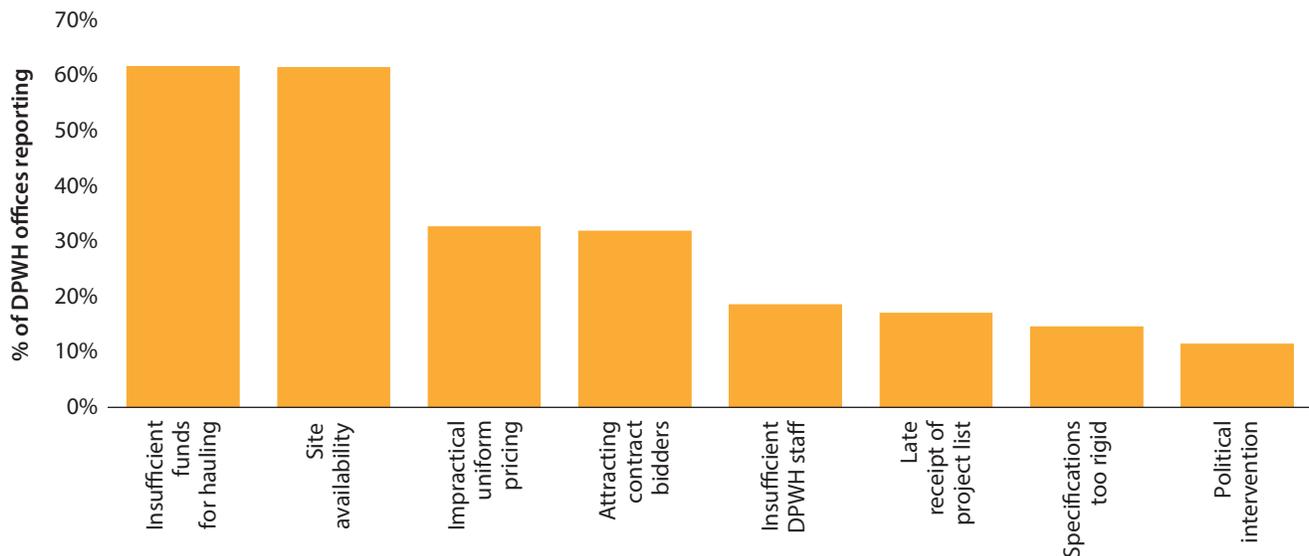
Source: PETS-QSDS national survey – DPWH district engineering offices.

not receive sufficient funds to cover hauling away debris and 33 percent complained of the impractical costing of school projects (Figure 9). A further issue raised by over 60 percent of the offices was a lack of space within the schools to locate the new infrastructure.

The PETS-QSDS survey asked staff of the DPWH and DepEd divisional offices about the infrastructure projects that they undertook within the surveyed schools. The study team then compared this information with similar information collected within the schools themselves to check whether the projects

Figure 9: Many DPWH Offices Reported Facing Difficulties in Implementing and Supervising School Infrastructure Projects

Common problems faced by the DPWH in implementing school infrastructure projects, 2014



Source: PETS-QSDS national survey – DPWH district engineering offices.

were actually carried out and to assess the accuracy of systems used to monitor the use of infrastructure funds.

There were large discrepancies between implementing offices and schools in their accounts of infrastructure projects. The analysis was carried out only on elementary schools since the number of projects documented in high schools was not sufficient for the team to be able to draw any reliable conclusions. First, the elementary schools reported that fewer DepEd-funded projects had been implemented than was reported by DepEd and the DPWH. Second, only around one-half of the projects that the DepEd and DPWH offices claimed to have implemented could be verified by information provided by the schools. However, one-quarter of projects reported by schools as DepEd-financed projects could not be matched with information from the relevant DepEd divisional or DPWH district office. Third, among those projects that appeared in both sets of data, about 40 percent had different descriptions. For example, schools reported the project as being a water and sanitation project while DepEd or the DPWH reported it as a construction project. The project costs also frequently differed.

It is hard to draw firm conclusions about whether all infrastructure funds are reaching their intended destinations. On the one hand, a significant number of projects recorded at the district or division level were not implemented in schools. On the other hand, schools reported projects funded by DepEd that were not recorded in the DepEd or DPWH offices. However, it does seem clear that existing information and monitoring systems are not able to accurately record the use of infrastructure funds.

Weaknesses in monitoring and feedback systems are also highlighted by other findings from the survey. Managers of projects in the DepEd and DPWH offices reported that almost all infrastructure projects in 2013 had already been completed even though the schools reported a completion rate of only 80 percent (see Figure 7). The widespread dissatisfaction with projects at the school level also does not appear to be reflected at higher levels of the administration. Nearly all respondents in DepEd and DPWH offices reported that they were satisfied with the projects undertaken in the surveyed schools, whereas only 57 percent of school heads were satisfied.

Social accountability initiatives aimed at soliciting feedback and providing oversight on the state of school infrastructure also do not appear to be widespread. There are many civil

society initiatives in the Philippines that aim to ensure that education funds reach their intended beneficiaries. For example, the Check My School initiative aims to promote citizen participation in the monitoring of public school performance.¹² It mobilizes communities to validate school-related information from DepEd on many issues including school infrastructure. Any discrepancies with this information or issues with the relevant school infrastructure that citizens raise are publicized and fed back to DepEd to be resolved. While such initiatives have the potential to improve DepEd's projects and strengthen accountability for the delivery and quality of infrastructure improvements, they operate on a limited scale. Only around 20 percent of elementary and high school principals had heard of the program and only around 10 percent of schools had any interaction with the initiative in 2013 or 2014.

Policy Directions for Improving School Learning Environments

Notwithstanding the significant investments made in school infrastructure over the last five years, further investment is needed. Funds are needed to address the remaining deficiencies in existing school facilities and to keep pace with the ever-growing student population. Between 2010 and 2013, an additional 1 million children entered the basic education system, an average of around 350,000 students annually, and the introduction of the senior high school program in 2016 will put an additional burden on existing high schools.

The findings from the PETS-QSDS study also show that government systems for delivering infrastructure improvements need to be strengthened and made more accountable if any increased funding is to be used effectively. First, the methods used to identify and target school improvement projects need to be strengthened to ensure that the neediest schools are prioritized. Second, implementation capacity needs to be increased to ensure that government systems are fit for purpose and are able to absorb the funds needed to fill infrastructure gaps. Finally, monitoring and evaluation efforts need to be stepped up and mechanisms to feed the findings back to implementers are needed to improve the quality of repairs and construction.

Improving the Allocation of Public Infrastructure Funds

At the end of 2014, DepEd embarked on a school inventory exercise, the results of which will help to improve the allocation of infrastructure funds. The exercise provided division-level and school staff with guidance on how to classify schools in terms of the state of their facilities with the aim of improving the quality of data collected annually through the Enhanced Basic Education Information System (EBEIS). This information can then be used to identify schools that do not meet existing DepEd standards. Combined with a realistic assessment of the potential to improve or expand school facilities (for example, the amount of buildable space), policymakers can use the information to develop and establish a clear and transparent set of criteria to prioritize infrastructure spending among schools whose facilities do not meet existing standards.

Allocation decisions could also be greatly improved by the creation of a validation and finalization process at the division level. The present centralized mechanism for allocating funding according to need requires validation at the local level to ensure that the central-level data reflect the real situation in the selected schools. This would make sure that the extensive knowledge that divisional staff have of schools and communities is reflected in the final allocation decisions and would ensure that infrastructure funds are put to the best use.

To ensure that allocation decisions are transparent, information on the criteria and data used to select schools for infrastructure improvements could be widely disseminated. Feedback mechanisms could also be established to provide a channel for schools and their communities to voice any grievances that they may have about either the data used or the selection process (see below).

Strengthening Implementation Capacity

Building strong partnerships between government systems and non-government partners would increase the capacity for infrastructure improvement. While infrastructure budgets have been growing rapidly, the study's findings have raised concerns about whether government systems have enough capacity to absorb these increases. There is a long tradition of NGO and private sector support for school infrastructure in the Philippines. Many of these non-government initiatives have demonstrated that they can

effectively deliver good quality classrooms at a comparable or lower cost than government systems and frequently in areas where government systems are particularly stretched (such as remote and hard-to-reach areas).¹³ Establishing or expanding partnerships between the government and these institutions is likely to reduce the stress on government systems and speed up the process of improving and expanding school facilities.

Developing a medium-term planning framework for school infrastructure investment would have the potential to increase the timeliness and improve the quality of projects. The findings of this study demonstrate that in many instances both project lists and funds are received well after the start of the financial year. This shortens the period for implementation and compromises the ability of DepEd and DPWH offices to monitor projects adequately. Developing a two- or three-year plan that would list all school improvement projects in each DepEd division would reduce the work involved in putting together the annual project list and accelerate the transmission of funds to the responsible implementing offices. It would also give implementing offices time to do some advance planning and thus avoid some of the difficulties associated with inadequate funding and site availability so commonly cited as reasons for implementation delays.

Coordination has improved between DepEd and the DPWH in recent years, but increasing the role played by schools in project planning and implementation could also yield significant benefits. In 2015, DepEd and the DPWH reissued a 2013 joint circular outlining their respective roles and responsibilities in project management (see Box 2). However, the guidelines specify only a weak role to be played by schools and their principals in project management. For example, the guidelines state that school principals should accompany DepEd and DPWH officials on inspection visits but they are not empowered to approve the completed works. Giving school principals authority alongside DepEd and DPWH officials for certifying that projects have been satisfactorily completed might reduce the differences in rates of reported completion between DPWH/DepEd managers and schools that were highlighted in the PETS-QSDS survey findings. School principals in the Philippines have taken on roles of this kind in the past and with appropriate training could become a major driving force in improving the quality of school infrastructure projects. Other countries in the region (such as Indonesia and Laos) and beyond (for example, Mexico) have engaged local communities in project implementation with significant success (see Box 3).

Box 3: Mexico’s Better Schools Program

The Better Schools Program (BSP) in Mexico was a key component of a broader education reform program aimed at improving the quality of basic education. Between 2008 and 2012 the program carried out school infrastructure improvement projects in 19,400 of the neediest basic education schools in Mexico.

The involvement and participation of each school community through its parent association was a major thrust of the BSP. A central government body was in charge of making payments to contractors and of overseeing the overall implementation of the program, but the schools’ parents associations acted as the legal client and was responsible for:

- Commenting on, making decisions, and supervising the school project
- Contributing to the transparency and presentation of financial accounts
- Verifying that the building materials and improvements were of good quality
- Approving all stages of the planning and implementation of the project.

After the Ministry of Education made an initial selection of schools in need of urgent repair, technical facilitators worked with each school to complete a technical assessment of its requirements that formed the basis of the project. Prospective contractors aiming to implement BSP projects were required to go through a rigorous pre-screening exercise, after which an approved list of contractors was drawn up and these companies were randomly selected to implement packages of projects.

A recent assessment of the program noted:

- The process of identifying priority schools and working with the schools’ parents associations to undertake the necessary work was efficient and flexible enough to adapt to each school’s circumstances
- The procedure of awarding contracts was relatively quick, and the payments process was transparent. It also ensured that contractors had incentives to deliver good quality projects
- Overall, the project was cost-effective in that it reached more schools than was initially intended and used resources effectively and in line with the relevant regulations and guidelines.

The necessary components for the effective participation of local communities in school infrastructure improvement were summarized in the assessment report:

“The BSP has demonstrated how partnerships between the community and government can result in substantial benefits to the community and foster trust in the government’s capacity to deliver quality education services. A clear decision-making framework, clarity of roles and expectations, and well-defined lines of responsibility have contributed to the successful engagement of parents and others in the BSP.”

Source: Blyth, A., Almeida, R., Forrester, D., Gorey, A. and J. Zepeda (2012). “Upgrading School Buildings in Mexico with Social Participation: The Better Schools Program,” OECD, Paris.

Developing Better Monitoring, Evaluation, and Feedback

The findings outlined in this policy note have shown that the monitoring and evaluation of school improvement projects in the Philippines is weak. Users reported that the overall quality of projects is low, and project managers do not seem to be informed about the progress and completion of projects on the ground.

In order to address these weaknesses, it seems clear that the capacity of DepEd divisional and DPWH offices to monitor projects effectively requires strengthening. Trained

engineers need to make frequent visits to project sites and make detailed reports to DepEd and DPWH in order to address the project quality issues highlighted in the PETS-QSDS survey. Allocating projects to specific DepEd divisional or DPWH staff and requiring them to visit these project sites on a regular basis (for example, twice a month) has the potential to improve the quality of projects for a relatively small investment. Given the significant increase in the number of projects that have been undertaken in recent times, it is likely that current numbers of physical facilities staff in DepEd and DPWH offices will need to be reassessed to ensure that they are adequate.

Monitoring and evaluation systems also need to make much better use of schools and local communities. School principals, teachers, and local communities have a strong interest in ensuring that projects are implemented well. Giving school principals and governing councils a stronger role in project monitoring could improve the quality of projects and also yield better information on the effectiveness of contractors. While school principals are already nominally involved in inspection visits, their role could be expanded. For example, they could produce regular on-site reports about project progress to share with DepEd and DPWH engineers as well as contractors. If they were also involved in approving inspection reports and completion certificates, this would signal to contractors that the schools are the final clients for their projects.

In order to increase transparency, information on ongoing school projects could also be made more widely available. Allowing public access to divisional lists of school projects would enable schools and local communities to check selections and ensure that criteria have been applied correctly for allocating projects. In a similar way to the school maintenance and operating funds provided by DepEd, school staff could also report on the project and its progress on the school's transparency board to inform parents and other stakeholders about progress and to give them greater oversight over infrastructure improvements.¹⁴

Increasing transparency is only one of the steps needed to increase accountability for project funds. Across the whole process for allocating and implementing infrastructure spending, mechanisms are needed to enable schools and other stakeholders to seek redress for unfair allocations or poor project implementation. Exploring the feasibility of introducing a formal grievance system for schools to utilize for all school funding, including school infrastructure projects, would be a useful step that policymakers could take towards making government education spending more effective and improving education services. Encouraging social accountability initiatives such as Check My School could also help schools to use grievance systems as well as providing further external pressure on government to implement improvements.

The government of the Philippines has made rapid progress in improving school learning environments. It has introduced a process to identify the infrastructure needs of thousands of elementary and high schools and developed systems to fund and implement a huge school building program every year. While these achievements are impressive, more funding will be needed to meet the remaining infrastructure challenge. However, increased funding will not be enough. A stronger focus on the governance and management of these resources will be required if schools and students across the Philippines are to get the good quality facilities that they need to improve the teaching and learning environment and raise learning achievement levels.

Table 3: Strengthening Government Systems for School Infrastructure Improvements

Findings	Policy suggestions
Allocation mechanisms for school infrastructure systems need strengthening	<ul style="list-style-type: none"> • Establish transparent criteria for prioritizing schools based on existing facility standards • Validate project priority list at the division level • Increase transparency and accountability by disseminating project selection criteria and by establishing feedback/grievance mechanisms
Large increases in infrastructure spending are required but implementation capacity also needs to be strengthened significantly	<ul style="list-style-type: none"> • Expand and establish partnerships to build and improve infrastructure • Introduce multi-year planning for school improvement projects • Strengthen coordination between implementing institutions • Strengthen the role of schools and school governing councils in implementation
Weaknesses in the monitoring and evaluation of infrastructure spending need to be addressed	<ul style="list-style-type: none"> • Increase the capacity of DepEd and DPWH to monitor projects regularly • Increase the transparency of school infrastructure improvement activities at the division and school levels • Empower schools to monitor projects more closely and provide effective feedback channels for all stakeholders to use

Endnotes

- 1 Woolner, P. Hall, E. Higgins, S. McCaughey, C. and K. Wall (2007). "A Sound Foundation? What We Know about the Impact of Environments on Learning and the Implications for Building Schools for the Future." *Oxford Review of Education* 33(1): 47-70.
- 2 Glewwe, P. Hanushek, E. Humpage, S. and R. Ravina. (2011). "School Resources and Educational Outcomes in Developing Countries: A Review of the Literature from 1990 to 2010," National Bureau of Economic Research, Cambridge, MA.
- 3 Krishnaratne, S. White, H. and E. Carpenter. (2013). "Quality Education for All Children? What Works in Education in Developing Countries?" Working Paper 20. New Delhi: International Initiative for Impact Evaluation (3ie).
- 4 Yamauchi, F. and S. Parandekar (2014). "School Resource and Performance Inequality: Evidence from the Philippines." World Bank Policy Research Working Paper No. 6748, World Bank, Washington D.C.
- 5 Highly urbanized cities are cities with populations of over 200,000 and with average revenues of at least PHP 50 million in 1991 prices. Other cities are defined as cities that do not meet the criteria to be classified as highly urbanized. Municipalities are administrative units for all other areas in the Philippines.
- 6 DepEd (2013). "Medium-term Expenditure Framework for Basic Education 2014-2020: Enrollment Projections and Cost Simulations under Alternative Scenarios." Department of Education, Manila.
- 7 In kindergarten and Grades 1 and 2, DepEd aims for classes to consist of fewer than 45 students.
- 8 In 2013, 62 percent (PHP 4 billion) of the BEFF releases managed by DepEd were allocated to the PPP program.
- 9 Appropriations for school infrastructure are set to grow from PHP 27 billion in 2013 to PHP 81 billion in 2016.
- 10 A similar pattern can be seen in the infrastructure funds that flow through DepEd divisional offices.
- 11 Downloading refers to the issuance of a sub-allotment release order from DPWH central office to the DPWH district engineering office. Sub-allotments are authorizations issued by the central office of DPWH or DepEd transferring a portion of an available allotment to the district office.
- 12 World Bank (2012). "Check My School: A Case Study on Citizens' Monitoring of the Education Sector in the Philippines." Washington D.C.
- 13 Philippines-Australia Classroom Construction Initiative (2013). "Partnership Scoping Study - A Discussion Paper." Manila.
- 14 The transparency board is a publicly accessible notice board where schools post information on the receipt of government operating funds and school canteen funds.

