



ACCESS TO EDUCATION IN SINDH

DISTRICT PROFILES
AND RANKINGS

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District Profiles and Rankings

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FOREWORD

BY AMEENA SAIYID

'Public schooling is the single most powerful agent to enable a transition to mass education in the country.' This statement by the authors of *Access to Education in Sindh*, a report compiled by the public policy research think tank, Manzil Pakistan, sums up the role of education in poverty alleviation and economic development not only in Sindh, but also across Pakistan.

Manzil Pakistan has rendered a remarkable service by researching, reviewing, compiling and presenting data on the state of primary education in Sindh, particularly since 2012 to date—a daunting task since accurate figures are hard to come by since no census has been conducted since 1998. This comprehensive report covers enrolment and the reasons for the variation in numbers as well as gender disparity, availability and state of public schools in terms of facilities as well as staffing, budgetary allocation and spending by the concerned authorities, and, most importantly, the Education Score Index. The findings, based on field visits and with the cooperation of Annual Status of Education Report (ASER), Idara e Taleem o Aagahi (ITA), Sindh Education Reform Programme (SERP), and Pakistan social and Living Standards Measurement (PSLM), highlight not only areas of grave concern in public education in Sindh, but also the commendable performance by some districts.

Ratings by performance place Larkana District as the best with Thatta District ranking the lowest. The report focuses on the factors that have led to such results; the prominent reasons are the level of interest shown by the government, the role of the District Education Officers in their jurisdiction, the state of the schools and their facilities including staff, and budgetary allocation and spending. 95 % of the allocated funds are spent on salaries including 'ghost' staff, and only 5 % is spent on maintenance and upgrading of schools, many of which are lacking in basic facilities such as boundary walls, toilets, potable water, and electricity.

The report concludes with advice that involvement of all stakeholders—students, parents, teachers—is essential to improve mass education and that, despite foreign funding, it is the responsibility of the government to provide for and facilitate education; that socio-political factors on ground should be taken into consideration instead of implementing foreign practices. The focus should be on poverty alleviation by providing education that enables the learner to progress in life by giving employment skills and opportunities.

This report is a needs' analysis template for improving mass education in Sindh as well as the rest of the country. It is hoped that these findings will be taken seriously by policy makers, and worked upon for the greater good and the future of the country.

EXECUTIVE SUMMARY

The resolve to educate children in Sindh has received much traction recently. A review of the education policy in Pakistan since partition makes clear the intent on part of all governments to impart literacy and education³. However, the primary reason stated for the consistent failure of eight 5-year plans and ten education policies is ineffective administration. It is commonly accepted in practice and theory that administrative failure is correlated with an absence of political will. The history of educational development in the world presents the presence of the latter as the dominant common factor in all successful transitions to mass education.

This report gives a summary of the condition of primary schooling in Sindh. It makes no attempt at assessing learning levels or the outcome of education. The study reviews data from the years 2012-2013 obtained from all available sources, providing some reasons for variations. The results are based on an average of all available data series of the same indicators and therefore can be accepted as reasonable estimates of the actual status. Some key indicators have been chosen to provide a cogent view of the current status to policy makers. These include enrolment rates, proportion of functional schools, size of schools and presence of necessary physical facilities in schools. An index which summarizes the status of these indicators is calculated to rank districts in Sindh. The Education Score Index (ESI) ranks Larkana as the best performing district and Thatta as the worst performing one. Results from districts which are categorized as poor performers are analyzed to highlight priority areas for government intervention.

A visit to public primary schools in Thatta and Larkana validated findings of the report. It was found that while schools in Thatta were in a bad state, schools in Larkana had better infrastructure and a larger presence of teachers. The distinguishing factor in both districts was the role of the District Education Officer (DEO). School management in Thatta

³ Bengali, Kaiser (1990). "History of Educational Policy Making and Planning in Pakistan", available at <http://www.sdpi.org/publications/files/W40-History%20of%20Educational%20Policy%20Making.pdf>

reported lack of interest from the DEO in Thatta, but the DEO in Larkana was actively monitoring the performance of the schools.

These visits also made clear the importance of improving the public education system in the province. In both these districts, only students from very poor families attended public schools. Local administration and teachers were of the view that families which can afford private schooling choose to not send their children to public schools. The only opportunity for very poor families to break out of the cycle of poverty is to attain quality education from public schools.

This study also identifies factors that significantly affect ESI. The results establish location of schools, percentage of schools with electricity, the number of functional schools, and the size of schools as the most significant determinants of performance. These results also show that districts in upper Sind have higher ESIs and perform better than those in lower Sindh. The crippling effect of an energy crisis in the country is evident here as well. The significance of the size of schools endorses a paradigm shift amongst policy makers and donors in the wake of a school consolidation drive. The results in this report show that bigger schools with more classrooms are better suppliers of education and enrolment numbers in such schools are greater. The findings in this report substantiate the Government of Sindh's current interest in collaborating with the World Bank on an ongoing school consolidation initiative. However, an across the board implementation of a consolidation strategy should consider distances from village settlements and children population in these villages but accurate data for these indicators is not currently available in any data source.

This study establishes the need for data-informed budget making. The Government of Sindh now prepares district and school specific budgets for the education department. These budgetary allocations must be based on administrative and infrastructure gaps identified through data. A failure to do so makes the annual census of schools in Sindh a futile activity.

The reasons for partial or complete failure of government programs and donor initiatives need to be thoroughly investigated. This report serves to inform government and presents indicative direction for policy makers. Successive research which takes direction from this report, aims to present a basis for informed decision making for education policy. If the administrative structure has to be reformed and is to become a potent agent for implementation of education policy in order to deliver mass education, then students, parents, teachers, and managers should be motivated and incentivized effectively. Donor led incentive programs have to be revisited and examples from other developing countries should not be indiscriminately replicated. Educationalists should understand what really matters to all stakeholders and should broaden their perspective beyond the realm of simple demand-supply economics. Socio-political factors cannot be dismissed as insignificant determinants of primary school enrolment and if mass education through public schools is to be delivered, policies have to be interwoven into communities seamlessly. The private sector, non-governmental organizations (NGOs) and international donors are all add-ons to capacity and although some burden may be shifted to them, the government remains legally and ethically responsible for educating the seven million children who live in Sindh. In conclusion, public schooling is the single and most powerful agent to enable a transition to mass education in the country.

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LIST OF ABBREVIATIONS

| | |
|-------|--|
| AASP | Adopt a School Program |
| ADP | Annual Development Plan |
| ASER | Annual Status of Education Report |
| DEO | District Education Officer |
| ELP | Early Learning Program |
| ESI | Education Score Index |
| FY | Financial Year |
| GoS | Government of Sindh |
| ITA | Idara-e-Taleem-o-Agaahi |
| IELP | Integrated Education Learning Program |
| MDG | Millennium Development Goal |
| NGO | Non Governmental Origination |
| PBS | Pakistan Bureau of Statistics |
| PSLM | Pakistan Social and Living Standards Measurement |
| PPRS | Promoting Private Schooling in Rural Sindh |
| RSU | Reform Support Unit |
| RBCS | Rural Based Community School Project |
| SEF | Sindh Education Foundation |
| SEMIS | Sindh Education Management Information System |
| SERP | Sindh Education Reform Program |
| SMC | School Management Committee |

SECTION I: INTRODUCTION

1.1 MOTIVATION

It has been established worldwide that primary education plays a vital role in reducing poverty and is positively associated with development-related outcomes such as improving productivity. Education, particularly of girls, is also linked with improvements in health, as well as reductions in fertility, infant mortality and morbidity rates⁴. It is due to these universally acknowledged outcomes of education, that achieving universal primary education was included in the Millennium Development Goals (MDGs) that Pakistan is nowhere near meeting. While most of the global discourse on education has moved on from Education for All to Learning for All, Pakistan continues to grapple with the issue of access to schools for children. Missed education targets paint a dismal picture with almost 25 million school-aged children out of school⁵ and calls for strategic adjustments in political and policy circles.

The 18th Constitutional Amendment, made education a provincial subject and due to the inclusion of Article 25-A⁶, which states that the “State shall provide free and compulsory education to all children of the age of five to sixteen years in such manner as may be determined by law”, education has become compulsory. However, making education a statutory fundamental right is not enough when there isn’t an adequate supply of schools to cater to education demands. The aim of 100 percent enrolment will remain elusive if the capacity to educate all children is not achieved.

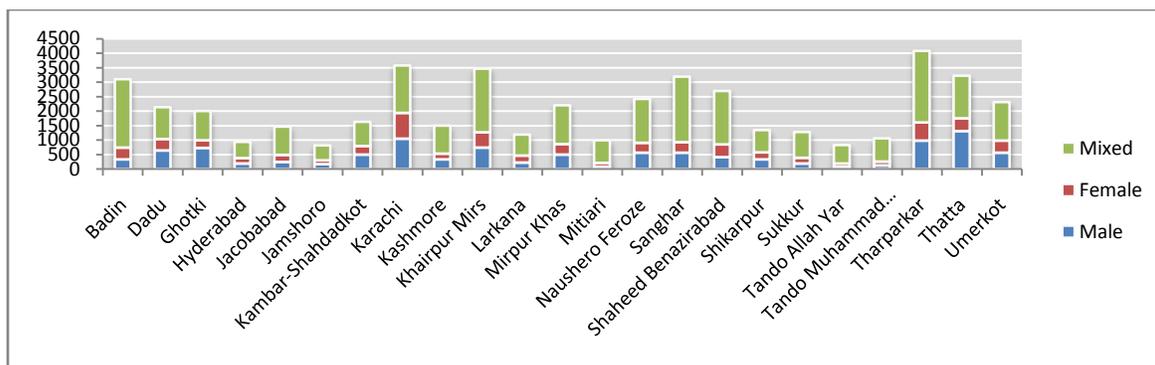


FIGURE 1: SCHOOLS IN SINDH

Currently, there are 47,394 schools⁷ (Figure 1) in Sindh. Out of the 6.7 million⁸ (Figure 2) children aged between 5 to 9 years (primary school going age), only 2.5 million⁹ (38%)

⁴ UN Education For All, <http://www.un.org/en/globalissues/briefingpapers/efa/>

⁵ “The State of Pakistan’s Children 2012”, Society for the Protection of the Rights of the Child

⁶Section 9 of the Constitution (Eighteenth Amendment) Act, 2010 (10 of 2010), inserted a new Article 25-A, after Article 25 of the Constitution, (w.e.f. April 19, 2010)

⁷ Source: Sindh Education Management Information System (SEMIS)

⁸ Source: Projection of Census 1998 population

(Figure 3) attend school. In the provincial budget for 2014-15, the Sindh government has allocated Rs. 145 billion for education, which is 21% of the total budget. It has also sanctioned over 150 schemes costing an amount of over Rs. 37 billion to improve amenities in schools, and increase female enrolment¹⁰.

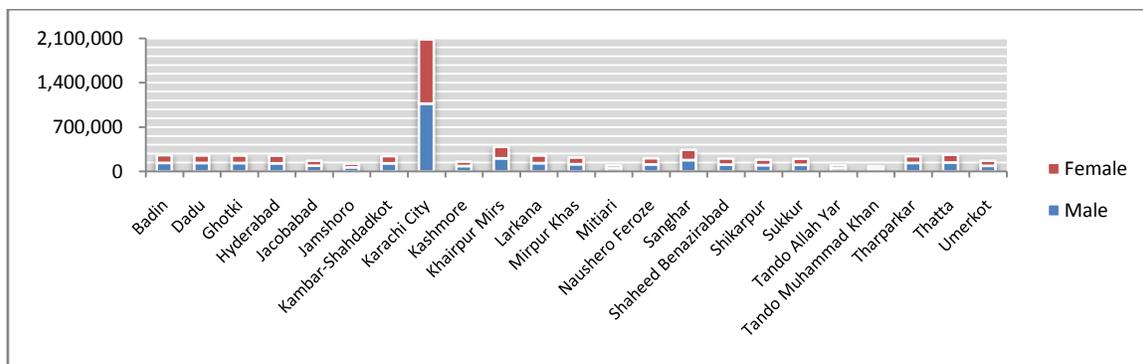


FIGURE 2: TOTAL CHILDREN OF PRIMARY SCHOOL GOING AGE (5 TO 9) IN SINDH

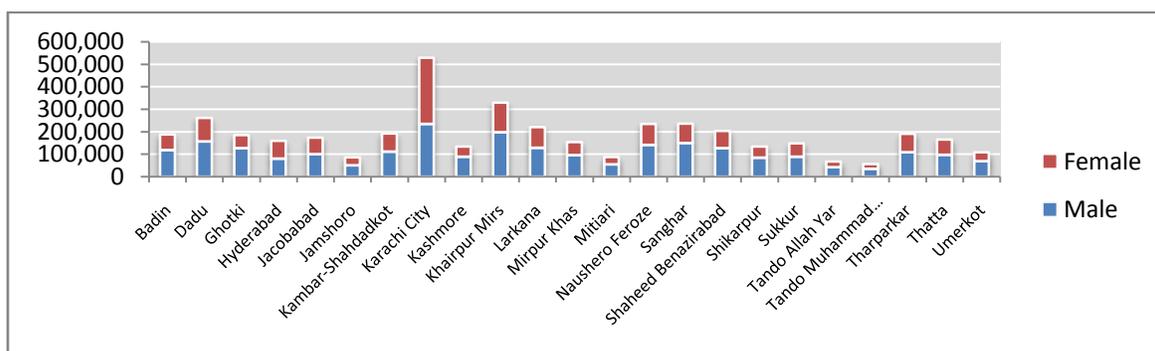


FIGURE 3: TOTAL ENROLMENT IN SINDH

A number of programs have been initiated in the past few years to improve the supply of schools in Sindh. The Sindh Education Foundation (SEF) has adopted 322 schools in the province under its Adopt a School Program. In addition to the 322 adopted schools, SEF runs 2000 other schools under various programs listed in Table 1¹¹. Other reforms initiated under the Sindh Education Reform Program I (SERP) include School Consolidation, Girls Stipends and formulation of School Management Committee (SMC). Under School Consolidation, schools located closer to each other and their under-utilized premises have been being merged. Stipends of Rs. 2400 per annum are given to girl students enrolled in public secondary schools. The SMCs have been formed in all primary schools to increase community participation in schools by involving parents in school activities. However, insufficient impact of these initiatives is indicative of ad hocism and lack of research based analysis of needs in the education sector. This lacuna in the effectiveness of education policies substantiates the need for informed decision making. It is proposed that this and

⁹ Source: Sindh Education Management Information System (SEMIS)

¹⁰ Annual Development Program 2013-14. Available at: <http://www.fdsindh.gov.pk/site/userfiles/VOLUME-V-2013-14/10-Education.pdf>

¹¹ Sindh Education Foundation: <http://www.sef.org.pk>

further research will provide direction to policy makers who can then channel funds strategically and increase the effectiveness of government and non-government initiatives.

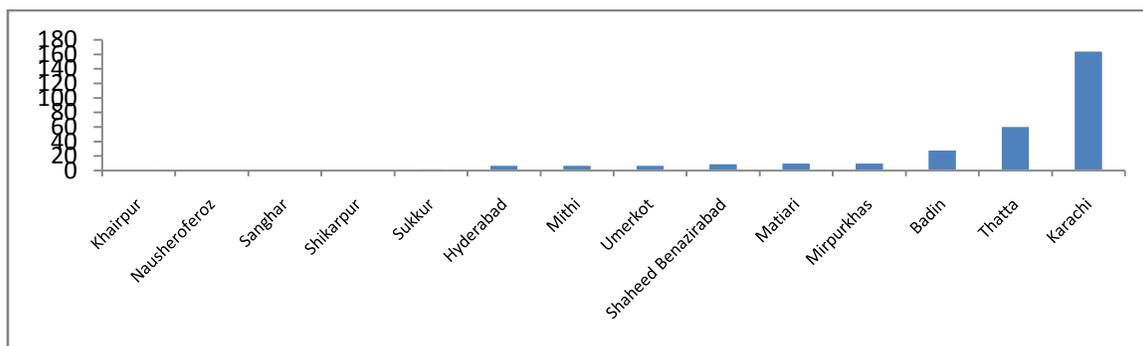


FIGURE 4: ADOPTED SCHOOLS

TABLE 1: SEF INITIATIVES

| | Schools | Students | Teachers |
|--|--------------|----------------|--------------|
| Adopt a School Program (AASP) | 322 | 93,254 | 2,842 |
| Integrated Education Learning Program (IELP) | 1,300 | 207,929 | 3,868 |
| Promoting Private Schooling in Rural Sindh (PPRS) | 346 | 52,909 | 1,291 |
| Early Learning Program (ELP) | 150 | 9,147 | 450 |
| Rural Based Community School Project (RBCS) | 250 | 14,557 | 500 |
| Total | 2,368 | 377,796 | 8,951 |

1.2 OBJECTIVE

This report presents a district-wise needs-analysis of the education sector identifying gaps in school supply and demand. Using secondary data from all available sources, it provides a bird’s eye view of the education scenario in Sindh vis-à-vis enrolment, number of schools, functional schools and school infrastructure. It also gives district ranking for enrolment and school indicators to determine the overall performance for each district. The report also identifies the factors that significantly affect a district’s performance in education.

The gaps identified in the report can be used to inform policy makers on the direction of future budgetary spending in education in the province.

1.3 ORGANIZATION

This report is divided into eight sections: Section II describes the data and methodology; Section III presents all the tabulated data for each indicator with district rankings; Section IV analyses each district in detail; Section V briefly discusses the case studies of public schools Thatta and Larkana; Section VI presents the results of the regression analysis; Section VII briefly discusses the provincial budgetary allocation in education; and Section VIII concludes.

SECTION II: DATA AND METHODOLOGY

This section discusses data sources for various educational indicators, the methodology for ranking districts and estimation methods used in the report.

2.1 DATA

The supply of education in Sindh was analyzed using the indicators listed in Table 2.

TABLE 2: ESI INDICATOR ANALYSIS

| Indicator | | Source |
|----------------------|--------------------------------|-------------------------------|
| Enrolment | Total Enrolment | Total Public Enrolment Rate |
| | | Total Private Enrolment Rate |
| | Boys' Enrolment | Boys Public Enrolment Rate |
| | | Boys Private Enrolment Rate |
| | Girls' Enrolment | Girls' Public Enrolment Rate |
| | | Girls' Private Enrolment Rate |
| | Boys' Enrolment | Boys' Public Enrolment Rate |
| | | Boys' Private Enrolment Rate |
| | Girls' Enrolment | Girls' Public Enrolment Rate |
| | | Girls' Private Enrolment Rate |
| | Total Enrolment | Total Urban Enrolment Rate |
| | | Total Rural Enrolment Rate |
| Urban Enrolment | Urban Boys' Enrolment Rate | |
| | Urban Girls' Enrolment Rate | |
| Rural Enrolment | Rural Boys' Enrolment Rate | |
| | Rural Girls' Enrolment Rate | |
| Schools availability | Functional Schools/1000 pupils | |
| | Classrooms/School | |

| | | |
|--------------------------|---|-----|
| School Facilities | Pupil/Class | |
| | Percentage of Schools with Water | |
| | Percentage of Schools with Toilet | |
| | Percentage of Schools with Electricity | |
| | Percentage of Schools with Boundary walls | |
| | Number of Schools Adopted | SEF |

This report uses three data sources:

1. Sindh Education Management Information Systems 2012-13 (SEMIS)
2. Annual Status of Education Report 2013 (ASER)
3. Pakistan Social and Living Standards Measurement 2012-13 (PSLM)

All three sources yield different enrolment numbers and thus ranking of districts by a particular indicator differs across source. The discrepancy can be explained by the difference in data collection methodology used by the different data sources. The use of data from all available sources rationalizes the benefits and drawbacks of all databases. SEMIS is census data for the entire population of schools in Sindh while ASER and PSLM are survey data based on samples. Further, while sampling for PSLM is representative at the district level, ASER is not a representative sample.

SEMIS is collected by the Reform Support Unit (RSU) of the Government of Sindh; PSLM by the Pakistan Bureau of Statistics (PBS), a federal department working under the Ministry of Economic Affairs and Statistics; and ASER is a citizen led initiative headed by the Idara-e-Taleem-o-Agaahi (ITA). It is noted that if ASER had been statistically representative, it would have been a more reliable data source for this report. However, the sampling methodology used by ASER renders the data questionable. Thus, this report primarily uses the SEMIS data.

A limitation of the SEMIS database is its dependence on population figures to calculate enrolment rates. Since the last population census was in 1998, all population numbers are official district-wise projections of the 1998 figures¹². Therefore they do not fully account for internal migration or changes in the birth rate. In an absence of a population census, or any other assimilation of private school records, there is no data for actual private school enrolments.

2.2 EDUCATION SCORE INDEX

Districts were ranked for each indicator according to their performance. From these rankings, three best and three worst performers were assigned scores ranging from 3 for the best district to -3 for the worst (Table 3). The best performing and worst performing districts for each indicator are tabulated in Table 6 to Table 22 in Section III.

¹² Projections using Compound Annual Growth Rate (CAGR) between two periods 1981 and 1998)

The Education Score Index (ESI) is an aggregation of these scores for every district and is used to rank districts by their education performance. The calculation of the ESI for each district across indicators is presented in Table 24.

TABLE 3: SCORE ASSIGNMENT BASED ON INDICATOR RANKING

| Rank | Score |
|--------------|-------|
| Best | 3 |
| Second Best | 2 |
| Third Best | 1 |
| Third Worst | -1 |
| Second Worst | -2 |
| Worst | -3 |

The final district-wise ranking was divided into three categories; districts with an ESI above 5 are labeled “Good Performers”, whilst districts with an ESI between 5 and -5 are labeled “Satisfactory Performers” and those below -5 are labeled ‘Poor Performers’ (Table 4). The district-wise assessment is analyzed in Section IV.

It is observed that despite discrepancies in indicators as explained in the preceding section, some districts consistently emerge as bad performers while some emerge as good performers across all data sources. This consistency in performance is evident in the ESI rankings.

TABLE 4: ESI SCORE CRITERIA

| ESI Score | Performance Category |
|------------------|------------------------|
| Greater than 5 | Good Performer |
| Between -5 and 5 | Satisfactory Performer |
| Less than -5 | Poor Performer |

2.2 FIELD VISITS

In order to validate the findings of this report, 8 public primary schools in Thatta and 16 in Larkana were visited. The schools were randomly selected and covered rural and urban areas of both districts. These visits were conducted to broadly gauge accuracy of the results presented in this report. The findings of this report were confirmed by gathering data from schools via a structured questionnaire, interviews with teachers, local administration and parents.

2.4 DATA ANALYSIS

To determine which indicators significantly affect the education performance of a district and to what extent, a cross sectional analysis of all available secondary data was done. Using Ordinary Least Squares, the following model was estimated:

$$y_i = X_i' \beta + \varepsilon_i$$

where y_i is the education performance of district i , as measured by the ESI; X_i are the independent variables that include demographic variables, education indicators, political factors, environmental factors, historical factors, and financial factors (Table 5), β is the effect of the explanatory variables in model and ε_i is the error term.

TABLE 5: INDEPENDENT VARIABLES FOR ANALYSIS

| | |
|-----------------------------|-------------------------|
| Demographics | Size of District |
| | Population |
| | Location |
| Education Indicators | % of schools functional |
| | Size of School |
| | Facilities Available |
| Political | Party Affiliation |

Due to a limited number of observations – one time period of 23 districts – it was not possible to run a panel regression. However, the Education Score Index can be computed for subsequent years, and then be used for a more sophisticated analysis.

Results for the regression analysis are presented in Section VI.

SECTION III: INDICATOR ANALYSIS

This section presents a snapshot of the education indicators that have been used to calculate the ESI. These indicators include:

1. Enrolment
 - 1.1. Total Enrolment Rate (SEMIS)
 - 1.1.1.Total Public Enrolment Rate (SEMIS)
 - 1.1.2.Total Private Enrolment Rate (SEMIS)
 - 1.2. Boys' Enrolment Rate (SEMIS)
 - 1.3. Girls' Enrolment Rate (SEMIS)
 - 1.4. Total Boys' Enrolment Rate (ASER)
 - 1.4.1.Boys' Public Enrolment Rate (ASER)
 - 1.5. Total Girls' Enrolment Rate (ASER)
 - 1.5.1.Girls' Public Enrolment Rate (ASER)
 - 1.6. Total Enrolment Rate (PSLM)
 - 1.6.1.Total Boys' Enrolment (PSLM)
 - 1.6.2.Total Girls' Enrolment (PSLM)
 - 1.7. Urban Enrolment Rate (PSLM)
 - 1.8. Rural Enrolment Rate (PSLM)
2. Supply of Schools
 - 2.1. Functional Schools (SEMIS)
 - 2.2. Schools/1000 Pupils (SEMIS)
 - 2.3. Classrooms/School (SEMIS)
 - 2.4. Pupil/Class (SEMIS)
3. Facilities
 - 3.1. Percentage of Schools with Water
 - 3.2. Percentage of Schools with Toilet (SEMIS)
 - 3.3. Percentage of Schools with Electricity (SEMIS)
 - 3.4. Percentage of Schools with Boundary Walls (SEMIS)

These indicators are discussed in detail in Subsection 3.1 to 3.4 below.

3.1 ENROLMENT

In this subsection, district rankings for primary enrolment are presented. The three data sources used are:

- SEMIS
- ASER
- PSLM

Although enrolment rates from all three sources have been used to calculate the ESI, district-wise enrolment rates as given in SEMIS are used for a comparative analysis which is presented in Section IV. This preference is based on the fact that SEMIS is a census of schools, whilst the other two are sample surveys. However, on closer inspection of the data collection methodology, it was found that enrolment figures in SEMIS are only copied from the school registers, and are not based on a headcount of students present in school. This

probably overestimates the SEMIS enrolment rates. Hence, a view of enrolment rates estimated by ASER and PSLM is prudent.

Further, enrolment rates for SEMIS are calculated as enrolment in public schools as a proportion of the age specific population. Since the last population census was in 1998, all population numbers are official district-wise projections of the 1998 figures. Therefore they do not fully account for internal migration or changes in the birth rate.

Enrolment is presented separately for girls and boys; and for rural and urban areas to also show gender and rural/urban disparities in education in a given district.

For each district except Karachi and some metropolitan cities, private enrolment is much lower than public enrolment. Due to non-availability of private schools in most districts in Sindh, the onus of educating children falls on the public schooling system. If enrolment numbers are to be increased, public schools will need to be revamped. Girls' enrolment is lower than boys' enrolment in almost all districts.

3.1.1 TOTAL ENROLMENT RATE (SEMIS)

Total enrolment rate is highest in Mitiari and lowest in Shikarpur and Badin (Figure 5). Karachi has a low public enrolment rate but the highest private enrolment rate.

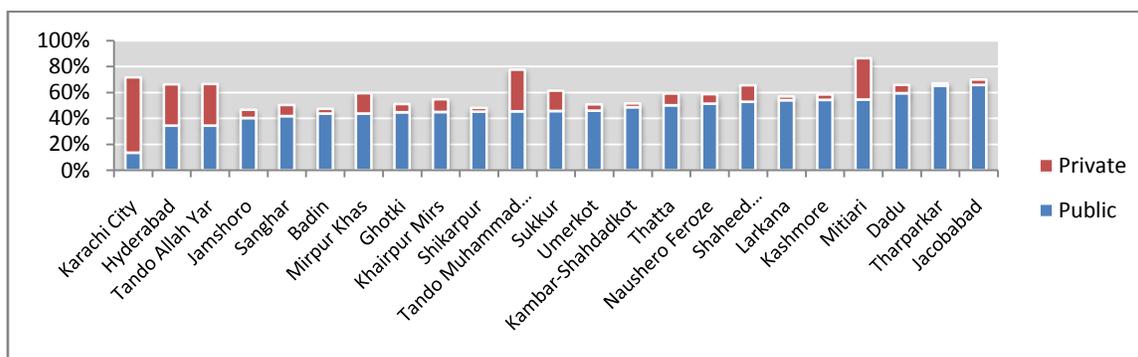


FIGURE 5: TOTAL ENROLMENT RATE (SEMIS)

TABLE 6: DISTRICT RANKING FOR TOTAL ENROLMENT RATE (SEMIS)

| | Total Enrolment Rate | | | Total Public Enrolment Rate | | | Total Private Enrolment Rate | | |
|----------------|----------------------|---------------------------|-----------------|-----------------------------|------------------|-----------------------|------------------------------|---------------------------|---------------------------|
| Highest | Mitiari (86%) | Tando Muhammad Khan (78%) | Karachi (72%) | Jacobabad (66%) | Tharparkar (65%) | Dadu (59%) | Karachi (58%) | Tando Mohammad Khan (32%) | Mitiari (32%) |
| Lowest | Jamshoro (47%) | Badin (47%) | Shikarpur (48%) | Karachi (13%) | Hyderabad (34%) | Tando Allah Yar (34%) | Tharparkar (2%) | Larkana (2.92%) | Kambar-Shahdadkot (2.93%) |

3.1.2 BOYS' ENROLMENT RATE (SEMIS)

It can be clearly seen in Figure 6 that boys' enrolment rate mostly follows the same trend as total enrolment rate, except in districts where gender disparity in education is high, e.g., Shaheed Benazirabad.

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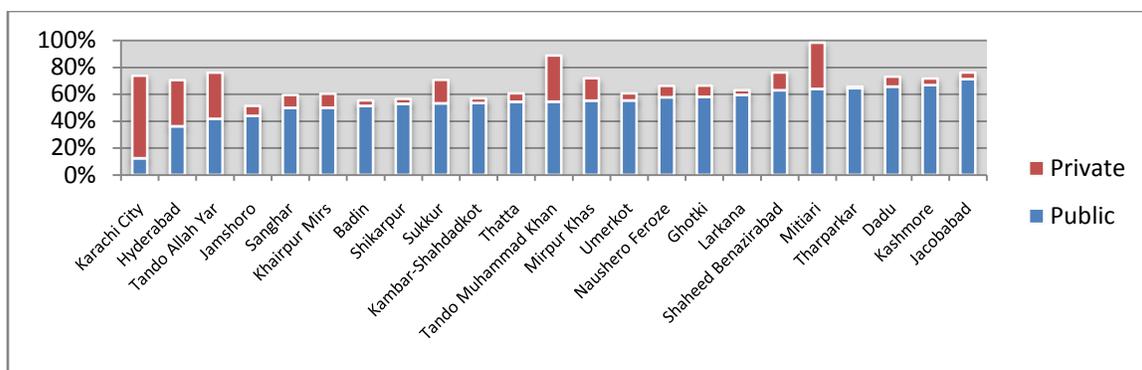


FIGURE 6: BOYS' ENROLMENT RATE (SEMIS)

TABLE 7: DISTRICT RANKING FOR BOYS' ENROLMENT RATE (SEMIS)

| | Total Boys' Enrolment Rate | | | Public Boys' Enrolment Rate | | | Private Boys' Enrolment Rate | | |
|----------------|----------------------------|---------------------------|---------------------------|-----------------------------|-----------------|-----------------------|------------------------------|---------------------------|------------------------|
| Highest | Mitiari (98%) | Tando Muhammad Khan (89%) | Shaheed Benazirabad (76%) | Jacobabad (71%) | Kashmore (67%) | Dadu (66%) | Karachi (61%) | Tando Mohammad Khan (34%) | Mitiari (34%) |
| Lowest | Jamshoro (51%) | Badin (55%) | Shikarpur (57%) | Karachi (12%) | Hyderabad (36%) | Tando Allah Yar (42%) | Tharparkar (1%) | Larkana (4%) | Kambar-Shahdadkot (4%) |

3.1.3 GIRLS' ENROLMENT RATE (SEMIS)

Girls' enrolment is much lower in Sindh than boys' enrolment, indicating that there is a need to focus on getting girls to school (Figure 7). The lowest enrolment rate for girls is in Ghotki and the highest in Mitiari and Karachi. It is also observed that private enrolment is even lower for girls than it is for boys in most districts. Gender disparity which is calculated as male enrolment minus female enrolment is highest in Ghotki, Kashmore and Mirpurkhas in that order.

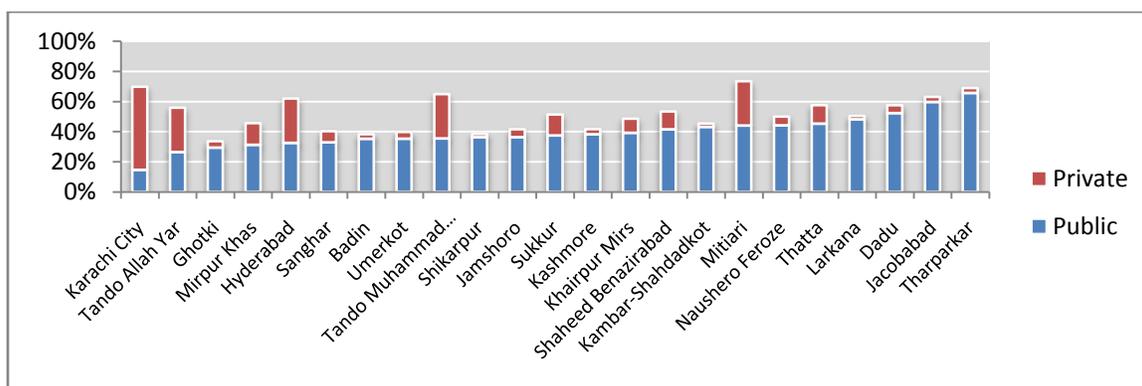


FIGURE 7: GIRLS' ENROLMENT RATE (SEMIS)

TABLE 8: DISTRICT RANKING FOR GIRLS' ENROLMENT RATE (SEMIS)

| | Total Girls' Enrolment Rate | | | Public Girls' Enrolment Rate | | | Private Girls' Enrolment Rate | | |
|----------------|-----------------------------|---------------|------------------|------------------------------|-----------------------|--------------|-------------------------------|---------------------------|------------------------|
| Highest | Mitiari (73%) | Karachi (70%) | Tharparkar (69%) | Tharparkar (66%) | Jacobabad (60%) | Dadu (52%) | Karachi (58%) | Tando Mohammad Khan (32%) | Mitiari (32%) |
| Lowest | Ghotki (34%) | Badin (38%) | Shikarpur (38%) | Karachi (15%) | Tando Allah Yar (26%) | Ghotki (29%) | Shikarpur (2%) | Larkana (2%) | Kambar-Shahdadkot (2%) |

3.1.4 BOYS' ENROLMENT RATE (ASER)

According to ASER, Karachi has the highest enrolment rate for boys and Shikarpur has the lowest (Figure 8). Mitiari is not in the list as it used to be a part of the Hyderabad district until 2005. It is clear that ASER has not used an updated list of districts.

As with the SEMIS data, it is observed that Karachi has low public enrolment relative to all other districts which rely heavily on the public schooling system for primary education.

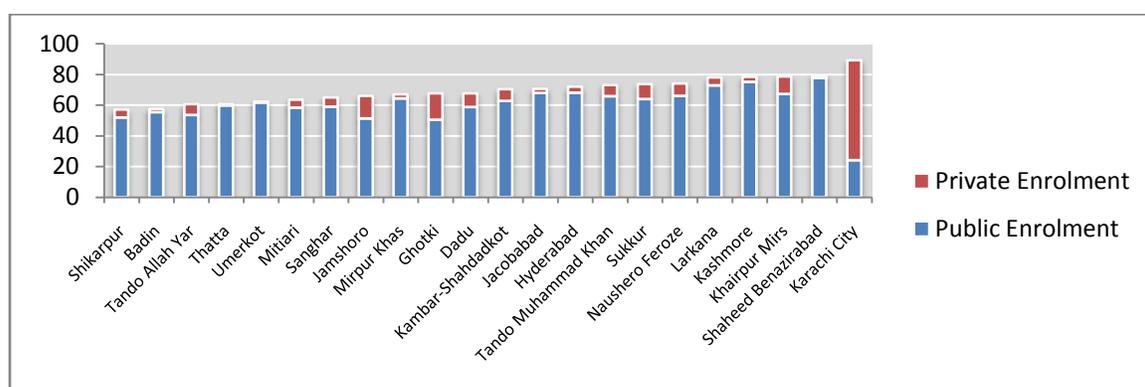


FIGURE 8: BOYS' ENROLMENT RATE (ASER)

TABLE 9: DISTRICT RANKING FOR BOYS' ENROLMENT RATE (ASER)

| | Total Boys' Enrolment Rate | | | Boys' Public Enrolment Rate | | | Boys' Private Enrolment Rate | | |
|----------------|----------------------------|---------------------------|-----------------------|-----------------------------|----------------|----------------|------------------------------|---------------|--------------------------|
| Highest | Karachi (89%) | Shaheed Benazirabad (79%) | Khairpur (78%) | Shaheed Benazirabad (66%) | Kashmore (75%) | Larkana (72%) | Karachi (65%) | Ghotki (17%) | Jamshoro (15%) |
| Lowest | Shikarpur (57%) | Badin (58%) | Tando Allah Yar (60%) | Karachi (24%) | Ghotki (51%) | Jamshoro (51%) | Umerkot (0.5%) | Thatta (0.9%) | Shaheed Benazirabad (2%) |

3.1.5 GIRLS' ENROLMENT RATE (ASER)

As with the SEMIS data, for every district girls' enrolment is lower than boys' enrolment (Figure 9). Gender disparity is highest in Ghotki, Badin, and Umerkot in that order.

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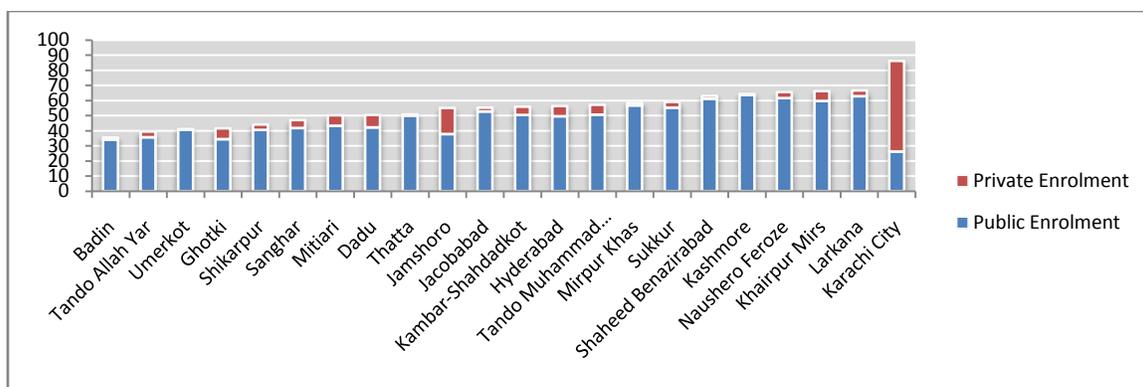


FIGURE 9: GIRLS' ENROLMENT RATE (ASER)

TABLE 10: DISTRICT RANKING FOR GIRLS' ENROLMENT RATE (ASER)

| | Total Girls' Enrolment Rate | | | Girls' Public Enrolment Rate | | | Private Enrolment Rate | | |
|----------------|-----------------------------|--------------------------|-------------------|------------------------------|------------------|--------------------------|------------------------|--------------------|------------------|
| Highest | Karachi (86%) | Larkana (66%) | Khairpur (66%) | Kashmore (64%) | Larkana (63%) | Naushero Feroze (62%) | Karachi (65%) | Jamshoro (17%) | Dadu (8%) |
| Lowest | Badin (35%) | Tando Allah Yar (39%) | Umerkot (41%) | Karachi (26%) | Badin (34%) | Ghotki (34%) | Umerkot (0.3%) | Kashmore (0.6%) | Thatta (0.9%) |

3.1.6 TOTAL ENROLMENT RATE (PSLM)

PSLM rankings present a slightly different picture with Hyderabad performing better than Karachi. This difference in rankings can be attributed to the difference in data collection methodology for all three data sources.

Despite differences in rankings, it is seen that those districts that are performing poorly according to SEMIS and ASER such as Thatta, Badin and Ghotki also show up as poor performers in PSLM (Figure 10).

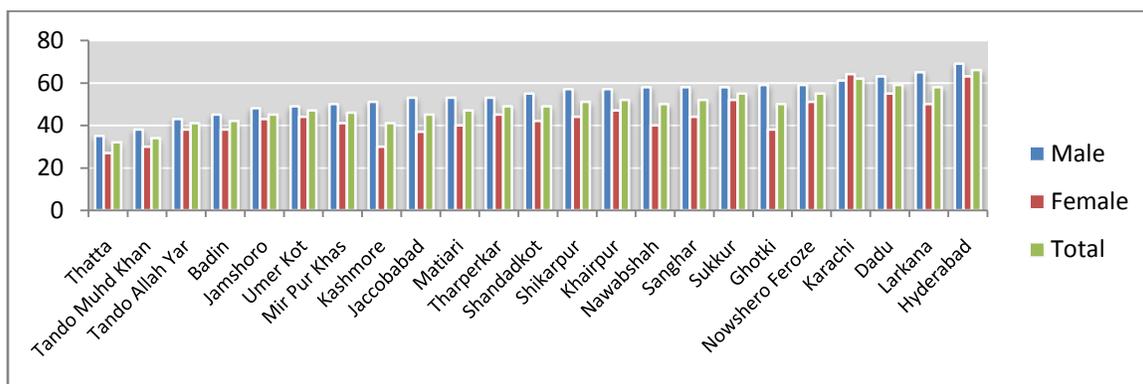


FIGURE 10: TOTAL ENROLMENT RATE (PSLM)

TABLE 11: DISTRICT RANKING FOR TOTAL ENROLMENT RATE (PSLM)

| | Total Enrolment Rate | | | Total Boys' Enrolment Rate | | | Total Girls' Enrolment Rate | | |
|----------------|----------------------|-------------------------------------|-------------------|----------------------------|-------------------------------------|-----------------------------|-----------------------------|-------------------------------------|-------------------|
| Highest | Hyderabad (66%) | Karachi (62%) | Dadu (59%) | Hyderabad (69%) | Larkana (65%) | Dadu (63%) | Dadu (55%) | Hyderabad (63%) | Karachi (64%) |
| Lowest | Thatta (32%) | Tando Mohamma d Khan (34%) | Kashmore (41%) | Thatta (35%) | Tando Mohamma d Khan (38%) | Tando Allah Yar (43%) | Thatta (27%) | Tando Mohamma d Khan (30%) | Kashmore (30%) |

3.1.7 URBAN ENROLMENT RATE (PSLM)

One advantage of the PSLM dataset is the urban/rural segregation in data. Karachi is an average performer when only urban areas of all districts are compared, whereas it emerged as a good performer when districts were compared as a whole. In most districts, male enrolment rate is higher than female enrolment rate in urban areas, but in some areas such as Thatta and Tharparkar, female enrolment rate is higher (Figure 11).

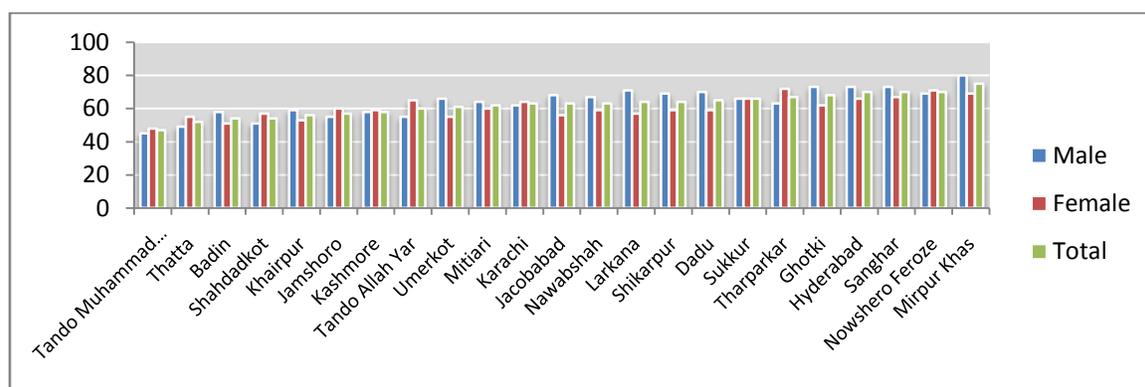


FIGURE 11: URBAN ENROLMENT RATE (PSLM)

TABLE 12: DISTRICT RANKING FOR URBAN ENROLMENT RATE (PSLM)

| | Male Enrolment Rate | | | Female Enrolment Rate | | | Total Urban Enrolment Rate | | |
|----------------|-------------------------------------|------------------|---------------------|-------------------------------------|-----------------------------|---------------------|-------------------------------------|------------------|-----------------------------|
| Highest | Mirpurkhas (80%) | Sanghar (73%) | Hyderabad (73%) | Tharparkar (72%) | Naushero Feroze (71%) | Mirpurkhas (69%) | Mirpurkhas (75%) | Sanghar (70%) | Naushero Feroze (70%) |
| Lowest | Tando Mohamma d Khan (45%) | Thatta (49%) | Shahdadkot (51%) | Tando Mohamma d Khan (48%) | Badin (51%) | Khairpur (53%) | Tando Mohamma d Khan (53%) | Thatta (52%) | Badin (54%) |

3.1.8 RURAL ENROLMENT RATE (PSLM)

In almost all districts, female enrolment rate in rural areas is lower than male enrolment rate (Figure 12).

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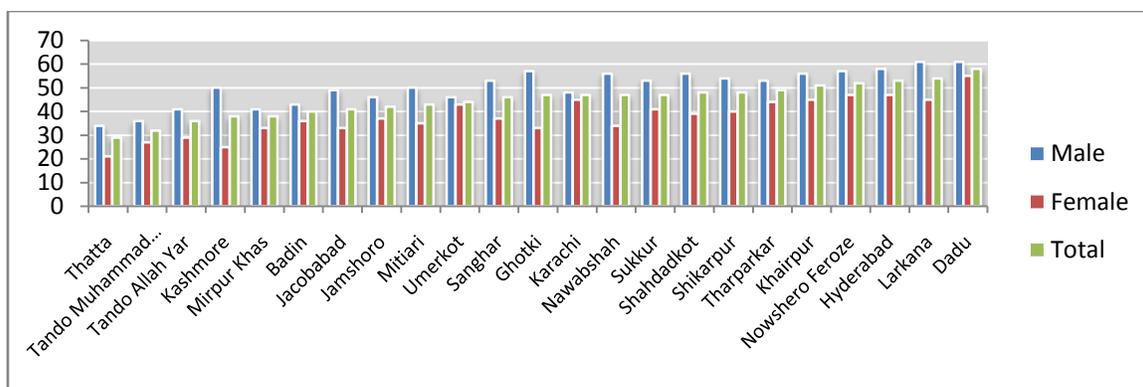


FIGURE 12: RURAL ENROLMENT RATE (PSLM)

TABLE 13: DISTRICT RANKING FOR RURAL ENROLMENT RATE (PSLM)

| | Male Enrolment Rate | | | Female Enrolment Rate | | | Total Rural Enrolment Rate | | |
|----------------|---------------------|---------------------------|-----------------------|-----------------------|-----------------------|---------------------------|----------------------------|---------------------------|-----------------------|
| Highest | Dadu (61%) | Larkana (61%) | Hyderabad (58%) | Tharparkar (55%) | Naushero Feroze (47%) | Mirpurkhas (47%) | Dadu (58%) | Larkana (54%) | Hyderabad (53%) |
| Lowest | Thatta (34%) | Tando Mohammad Khan (36%) | Tando Allah Yar (41%) | Thatta (21%) | Kashmore (25%) | Tando Mohammad Khan (27%) | Thatta (29%) | Tando Mohammad Khan (32%) | Tando Allah Yar (36%) |

3.2 SUPPLY OF PUBLIC SCHOOLS

The supply of primary public schools is assessed by the following indicators:

1. Percentage of Public Schools Functional
2. Functional Public Schools per 1000 Pupils
3. Classrooms per School
4. Pupils per Class

SEMIS defines all public schools that are not closed at the time of the visit as functional schools. The data for functional schools does not make a distinction between primary and secondary schools. However, a percentage of all public schools functional in a district is a close estimate of percentage of primary public schools functional.

According to SEMIS, on an average 88% schools in Sindh are functional. This surprisingly high number may be explained by the School Consolidation Program undertaken by the Reform Support Unit on the behest of World Bank. As of December 2012, 1068 government schools have been consolidated in seven districts¹³.

The supply of schools, when seen in conjunction with classes available for students, shows that districts with more schools have fewer number of classes/school. It is understood that most single room schools constructed in the same vicinity serve to gain political patronage.

¹³Government of Sindh Education & Literacy Department (<http://www.sindheducation.gov.pk/educationReforms/sc.jsp>)

This points towards a need for further consolidation of several single room schools into bigger schools.

According to the above criteria, districts in which schools consolidation should be pursued are:

- Tharparkar
- Badin
- Tando Muhammad Khan
- Umerkot

It is proposed that districts with a low percentage of functional schools need to utilize already constructed premises. Fewer classrooms/school imply that a larger number of pupils will need to be accommodated in the same class. Smaller class sizes ensure increased attention by the instructor, leading to improved quality of education.

3.2.1 FUNCTIONAL PUBLIC SCHOOLS (SEMIS)

In Figure 13 below, the blue bar indicates the number of functional public schools and the red bar indicates the percentage of public schools functional in the district. It is clearly seen that while some districts such as Tharparkar and Khairpur have a greater number of schools, relatively less proportion of them are functional. Other districts such as Hyderabad and Larkana have a fewer number of schools but a greater proportion of them are functional.

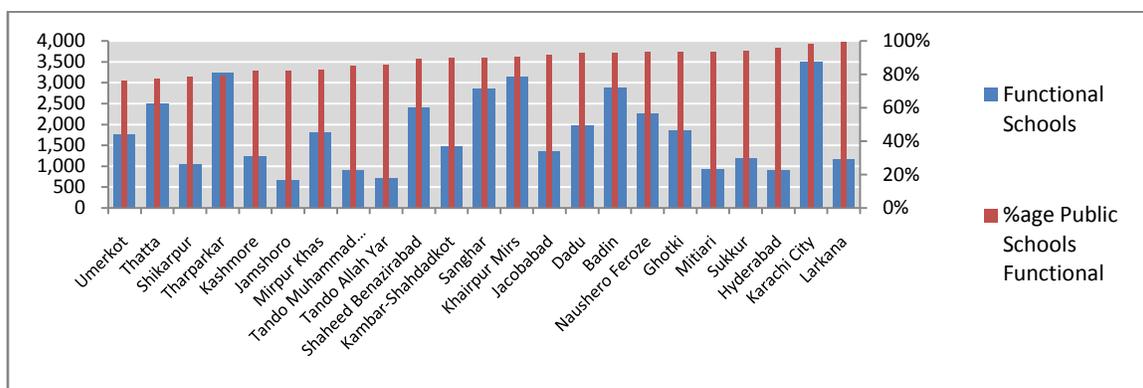


FIGURE 13: FUNCTIONAL PUBLIC SCHOOLS (SEMIS)

TABLE 14: DISTRICT RANKING FOR FUNCTIONAL PUBLIC SCHOOLS (SEMIS)

| | Functional Schools | | | Functional Schools (%age) | | |
|----------------|--------------------|--------------------------|---------------------------------|---------------------------|------------------|--------------------|
| Highest | Karachi (3504) | Tharparkar (3232) | Khairpur Mir (3128) | Larkana (99%) | Karachi (98%) | Hyderabad (96%) |
| Lowest | Jamshoro (672) | Tando Allah Yar (708) | Tando Muhammad Khan (895) | Umerkot (76%) | Thatta (77%) | Shikarpur (78%) |

3.2.2 FUNCTIONAL PUBLIC SCHOOLS/1000 CHILDREN (SEMIS)

The blue bar in Figure 14 below indicates the number of schools/1000 children. It is calculated as:

$$\frac{\text{No. of functional school}}{\text{Population aged between 5 and 9}} \times 1000$$

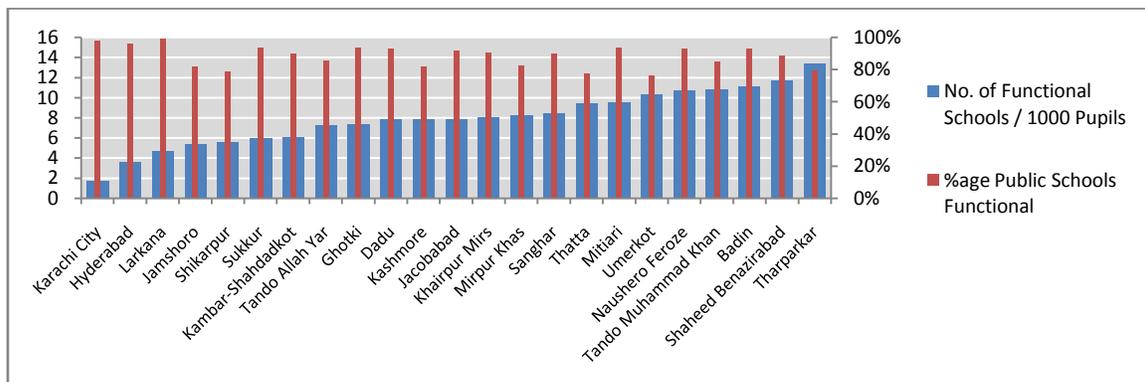


FIGURE 14: FUNCTIONAL PUBLIC SCHOOLS/1000 CHILDREN (SEMIS)

TABLE 15: DISTRICT RANKING FOR PERCENTAGE OF PUBLIC SCHOOLS FUNCTIONAL (SEMIS)

| | %age Public Schools Functional | | |
|----------------|--------------------------------|------------------|--------------------|
| Highest | Larkana (99%) | Karachi (98%) | Hyderabad (96%) |
| Lowest | Umerkot (76%) | Thatta (77%) | Shikarpur (78%) |

TABLE 16: DISTRICT RANKING FOR FUNCTIONAL SCHOOLS/1000 CHILDREN (SEMIS)

| | Functional Schools/ 1000 | | |
|----------------|--------------------------|-----------------------------|----------------|
| Highest | Tharparkar (13) | Shaheed Benazirabad (12) | Badin (11) |
| Lowest | Karachi (2) | Hyderabad (4) | Larkana (5) |

Districts that have fewer schools/1000 pupils but a higher percentage of functional schools are those where new school construction is recommended. Such districts include:

- Hyderabad
- Larkana
- Sukkur

3.2.3 CLASSROOMS/SCHOOL (SEMIS)

While classrooms per school, a proxy for size of schools, in itself does not directly affect educational outcomes, a lower number of average classrooms per school in a district is

evident of wasteful use of resources. It is observed that these small schools built for political reasons fail to deliver education effectively.

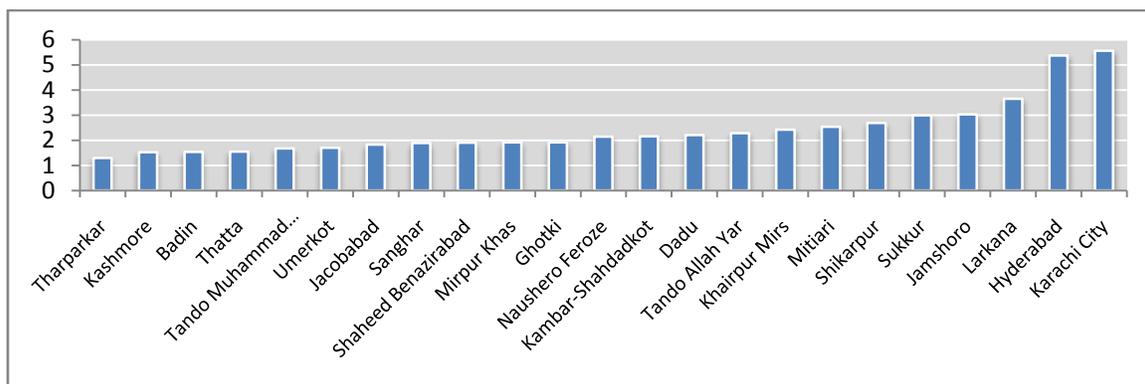


FIGURE 15: CLASSROOMS/SCHOOL (SEMIS)

TABLE 17: DISTRICT RANKING FOR CLASSROOMS/SCHOOL (SEMIS)

| | Classrooms/School | | |
|----------------|----------------------|---------------------|-------------------|
| Highest | Karachi (5.57) | Hyderabad (5.38) | Larkana (3.66) |
| Lowest | Tharparkar (1.29) | Kashmore (1.53) | Badin (2) |

3.2.4 PUPIL/CLASS (SEMIS)

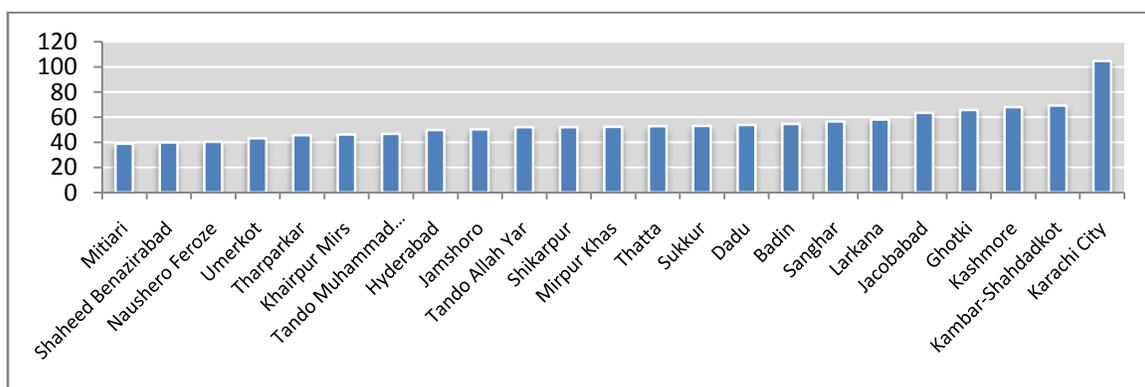


FIGURE 16: PUPIL/CLASS (SEMIS)

Figure 16 above presents the population of children aged 5 to 9 years in a district as a proportion of the number of classrooms in public schools in the district. For example, there is one classroom for every 105 children in Karachi. Class size is an important variable to assess as higher class sizes imply that each child gets less attention from the teacher, thus

resulting in lower achievement. A generally accepted standard class size universally is 40 (Maimonide’s rule)¹⁴. Almost all districts in Sindh exceed the standard class size.

TABLE 18: DISTRICT RANKING FOR PUPIL/CLASS (SEMIS)

| | Pupil/Class | | |
|----------------|------------------|-----------------------------|-------------------------|
| Highest | Karachi (105) | Kambar Shahdaktot (69) | Kashmore (68) |
| Lowest | Mitiari (39) | Shaheed Benazirabad (40) | Naushero Feroze (40) |

3.3 FACILITIES

Appropriate sanitation in primary schools is fundamental for effective learning and prevention of diseases common in children¹⁵. Lack of access to safe drinking water and sanitation not only has health consequences through spread of water-borne diseases and parasitic infections among school-aged children but is also linked to school attendance and performance (particularly among girls), safety and security of women and girls, and socio-economic development of communities. Therefore, providing adequate levels of water supply, sanitation and hygiene in schools is crucial to achieving universal primary education, and promoting gender equality in terms of access to schools.

Sindh experiences an extremely warm climate for most of the year. Lack of electricity in warm climate exacerbates the likelihood of dehydration, fatigue, and heat stroke. Cooling via fans can be important to keep classrooms at a comfortable temperature for teachers and students. Provision of electricity is also used a measure of the general infrastructure of a school.

This subsection elaborates on the condition of schools as evident from the existence of the following facilities:

- Water
- Toilet
- Electricity
- Boundary Walls

This section clearly identifies schools that direly need repair and maintenance. In the Annual Budget for Fiscal Year 2014-15, Government of Sindh has allocated Rs. 10 billion for repair of government buildings which include schools and police stations.

¹⁴Angrist, J. D.; Lavy, V. (1999). "Using Maimonides' Rule to Estimate the Effect of Class Size on Scholastic Achievement". *Quarterly -Journal of Economics* 114 (2): 533–575.

¹⁵ World Health Organization, http://www.who.int/water_sanitation_health/mdg1/en/

Graphical representations of available facilities are presented in Figure 17 to Figure 20 below. A district-wise analysis based on this data given in Section IV, indicates which districts need to refurbish schools urgently.

It is seen that while availability of water, toilets and boundary wall in public schools varies from district to district, public schools in almost all districts suffer from an acute shortage of electricity.

3.3.1 PERCENTAGE OF PUBLIC SCHOOLS WITH WATER

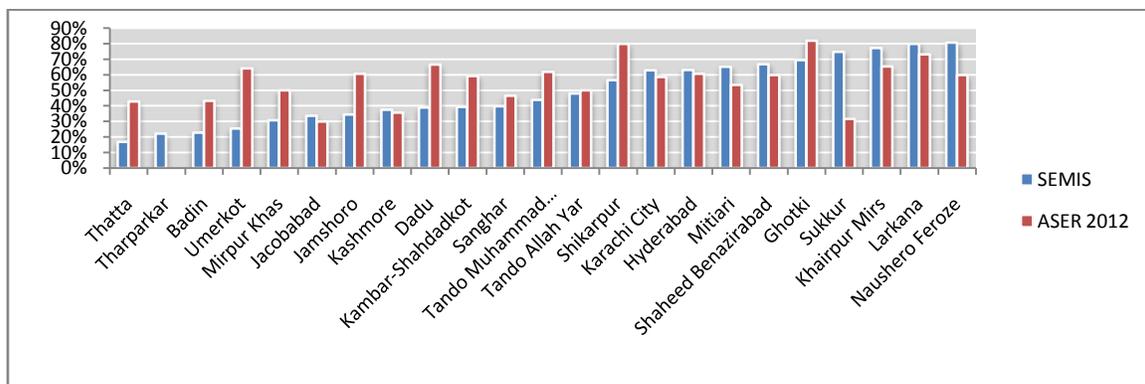


FIGURE 17: PERCENTAGE OF PUBLIC SCHOOLS WITH WATER

TABLE 19: DISTRICT RANKING FOR PERCENTAGE OF PUBLIC SCHOOLS WITH WATER

| | SEMIS | | | ASER | | |
|----------------|-----------------------|------------------|--------------------|-----------------|-----------------|----------------|
| Highest | Naushero Feroze (81%) | Larkana (80%) | Khairpur Mir (77%) | Ghotki (82%) | Shikarpur (80%) | Larkana (73%) |
| Lowest | Thatta (17%) | Tharparkar (22%) | Badin (23%) | Jacobabad (30%) | Sukkur (32%) | Kashmore (36%) |

3.3.2 PERCENTAGE OF PUBLIC SCHOOLS WITH TOILET

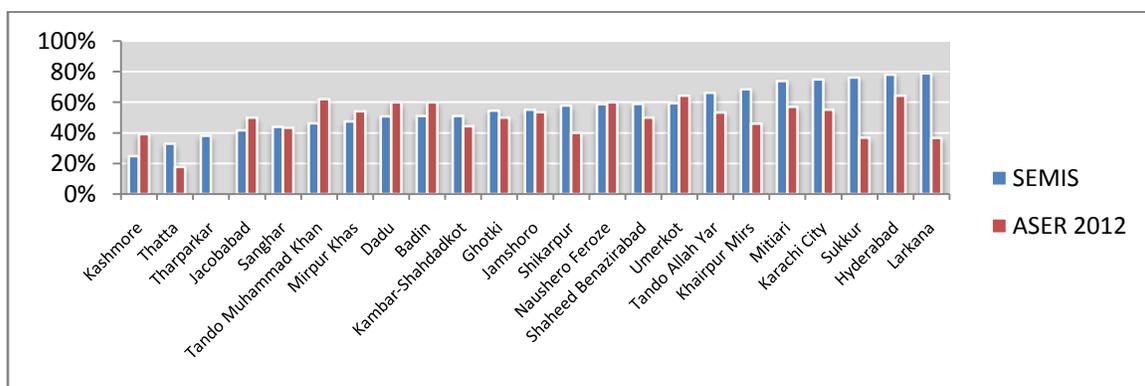


FIGURE 18: PERCENTAGE OF PUBLIC SCHOOLS WITH TOILET

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TABLE 20: DISTRICT RANKING FOR PERCENTAGE OF PUBLIC SCHOOLS WITH TOILET

| | SEMIS | | | ASER | | |
|----------------|-------------------|--------------------|---------------------|--------------------|------------------|------------------------------|
| Highest | Larkana (79%) | Hyderabad (78%) | Sukkur (76%) | Hyderabad (64%) | Umerkot (64%) | Tando Muhammad Khan (62%) |
| Lowest | Kashmore (25%) | Thatta (33%) | Tharparkar (38%) | Thatta (18%) | Larkana (37%) | Sukkur (37%) |

3.3.3 PERCENTAGE OF PUBLIC SCHOOLS WITH ELECTRICITY

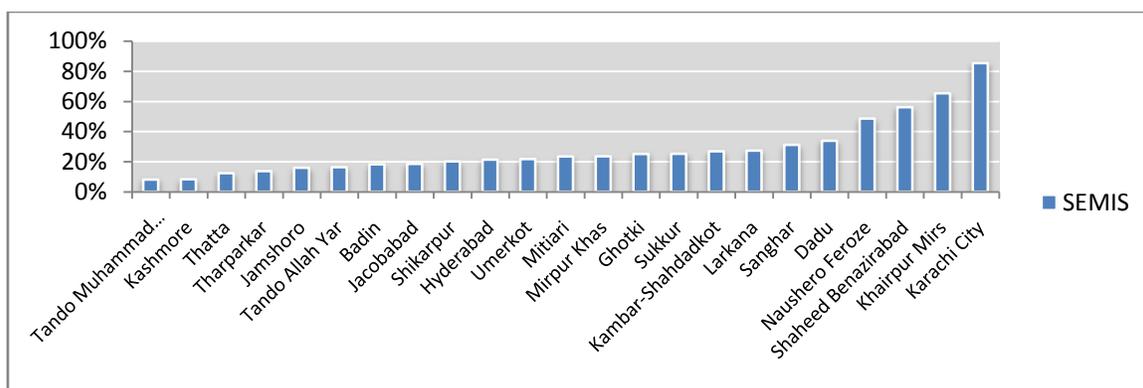


FIGURE 19: PERCENTAGE OF PUBLIC SCHOOLS WITH ELECTRICITY

TABLE 21: DISTRICT RANKING FOR PERCENTAGE OF PUBLIC SCHOOLS WITH ELECTRICITY

| | SEMIS | | |
|----------------|-----------------------------|-----------------------|------------------------------|
| Highest | Karachi (85%) | Khairpur Mir (65%) | Shaheed Benazirabad (56%) |
| Lowest | Tando Muhammad Khan (8%) | Kashmore (8%) | Thatta (12%) |

3.3.4 PERCENTAGE OF PUBLIC SCHOOLS WITH BOUNDARY WALLS

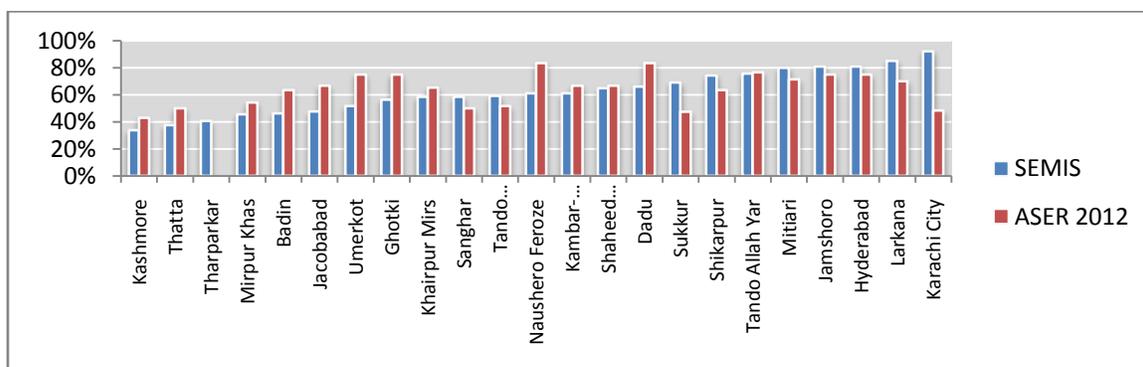


FIGURE 20: PERCENTAGE OF PUBLIC SCHOOLS WITH BOUNDARY WALLS

TABLE 22: DISTRICT RANKING FOR PERCENTAGE OF PUBLIC SCHOOLS WITH BOUNDARY WALLS

| | SEMIS | | | ASER | | |
|---------|-------------------|------------------|---------------------|-------------------|-----------------------------|-----------------------------|
| Highest | Karachi (92%) | Larkana (85%) | Hyderabad (81%) | Dadu (83%) | Naushero Feroze (83%) | Tando Allah Yar (77%) |
| Lowest | Kashmore (34%) | Thatta (37%) | Tharparkar (41%) | Kashmore (43%) | Sukkur (47%) | Karachi (48%) |

SECTION IV: DISTRICT-WISE ANALYSIS

This section analyses each district’s performance based on the Education Score Index.

4.1 EDUCATION SCORE INDEX

Districts were ranked for each indicator according to their performance. From these rankings, three best and three worst performers were assigned scores ranging from 3 for the best district to -3 for the worst (Table 3). The Education Score Index (ESI) is an aggregation of these scores for every district and is used to rank districts by their education performance. The calculation of the ESI for each district across indicators is presented in Table 24.

The final district-wise ranking was divided into three categories; districts with an ESI above 5 are labeled “Good Performers”, whilst districts with an ESI between 5 and -5 are labeled “Satisfactory Performers” and those below -5 are labeled ‘Poor Performers’ (Table 23).

The next subsection discusses each district individually based on the above categorizations. Areas that need to be reformed on priority in districts which are identified as “Poor Performers” are also listed to inform decision makers.

TABLE 23: PERFORMANCE OF DISTRICTS

| Good Performers | Satisfactory Performers | Poor Performers |
|---------------------|-------------------------|---------------------|
| Larkana | Khairpur Mir | Ghotki |
| Mitiari | Jacobabad | Tando Allah Yar |
| Hyderabad | Mirpurkhas | Shikarpur |
| Shaheed Benazirabad | Sanghar | Jamshoro |
| Dadu | Sukkur | Kashmore |
| Karachi | Kambar Shahdadkot | Tando Muhammad Khan |
| Naushero Feroze | Tharparkar | Badin |
| | Umerkot | Thatta |

The ESI gives a weight to each indicator according to its performance. Districts that perform poorly consistently on most indicators have a far lower ESI than those that have an average performance. Similarly, districts that have consistently performed better have a higher ESI. Hence, each district’s overall performance can be ranked despite the variation in the indicators.

Access to Education in Sindh

TABLE 24: DISTRICT-WISE EDUCATION SCORE INDEX

| | 1. Total Enrolment Rate (SEMIS) | 2. Total Public Enrolment (SEMIS) | 3. Boys Enrolment (SEMIS) | 4. Girls Enrolment (SEMIS) | SEMIS Enrolment Score | 5. Total Boys Enrolment (ASER) | 6. Boys Public Enrolment (ASER) | 7. Total Girls Enrolment (ASER) | 8. Girls Public Enrolment (ASER) | ASER Enrolment Score | 9. Total Enrolment (PSLM) | 10. Total Boys' Enrolment (PSLM) | 11. Total Girls' Enrolment (PSLM) | 12. Urban Enrolment (PSLM) | 13. Rural Enrolment (PSLM) | PSLM Enrolment Score | 15. Functional schools (%age) | 16. Functional Schools/1000 Pupils | 17. Classrooms/School | 18. Pupil/Class | Availability Score | 19. Water | 20. Toilets | 21. Electricity | 22. Boundary Walls | Facilities Score | Education Score Index |
|---------------------|---------------------------------|-----------------------------------|---------------------------|----------------------------|-----------------------|--------------------------------|---------------------------------|---------------------------------|----------------------------------|----------------------|---------------------------|----------------------------------|-----------------------------------|----------------------------|----------------------------|----------------------|-------------------------------|------------------------------------|-----------------------|-----------------|--------------------|-----------|-------------|-----------------|--------------------|------------------|-----------------------|
| Larkana | | | | | 0 | | 1 | 2 | 2 | 5 | | 2 | | | 2 | 4 | 3 | -1 | 1 | | 3 | 2 | 3 | | 2 | 7 | 19 |
| Mitiari | 3 | | 3 | 3 | 9 | | | | | 0 | | | | | | 0 | | | | 3 | 3 | | | | | 0 | 12 |
| Hyderabad | | -2 | | | -2 | | | | | 0 | 3 | 3 | 2 | | 1 | 9 | 1 | -2 | 2 | | 1 | | 2 | | 1 | 3 | 11 |
| Shaheed Benazirabad | | | 1 | | 1 | 2 | 3 | | | 5 | | | | | | 0 | | 2 | | 2 | 4 | | | 1 | | 1 | 11 |
| Dadu | | 1 | | | 1 | | | | | 0 | 1 | 1 | 3 | | 3 | 8 | | | | | 0 | | | | | 0 | 9 |
| Karachi | 1 | -3 | | 2 | 0 | 3 | -3 | 3 | -3 | 0 | 2 | | 1 | | | 3 | 2 | -3 | 3 | -3 | -1 | | | 3 | 3 | 6 | 8 |
| Naushero Feroze | | | | | 0 | | | | 1 | 1 | | | | 1 | | 1 | | | | 1 | 1 | 3 | | | | 3 | 6 |
| Khairpur Mir | | | | | 0 | 1 | | 1 | | 2 | | | | | | 0 | | | | | 0 | 1 | | 2 | | 3 | 5 |
| Jacobabad | | 3 | | | 3 | | | | | 0 | | | | | | 0 | | | | | 0 | | | | | 0 | 3 |
| Mirpurkhas | | | | | 0 | | | | | 0 | | | | 3 | | 3 | | | | | 0 | | | | | 0 | 3 |
| Sanghar | | | | | 0 | | | | | 0 | | | | 2 | | 2 | | | | | 0 | | | | | 0 | 2 |
| Sukkur | | | | | 0 | | | | | 0 | | | | | | 0 | | | | | 0 | | 1 | | | 1 | 1 |
| Tharparkar | | 2 | | 1 | 3 | | | | | 0 | | | | | | 0 | | 3 | -3 | | 0 | -2 | -1 | | -1 | -4 | -1 |
| Kambar Shahdadt | | | | | 0 | | | | | 0 | | | | | | 0 | | | | -2 | -2 | | | | | 0 | -2 |
| Umerkot | | | | | 0 | | | -1 | | -1 | | | | | | 0 | -3 | | | | -3 | | | | | 0 | -4 |
| Ghotki | | | | -3 | -3 | | -2 | | -1 | -3 | | | | | | 0 | | | | | 0 | | | | | 0 | -6 |
| Tando Allah Yar | | -1 | | | -1 | -1 | | -2 | | -3 | | -1 | | | -1 | -2 | | | | | 0 | | | | | 0 | -6 |
| Shikarpur | -1 | | -1 | -1 | -3 | -3 | | | | -3 | | | | | | 0 | -1 | | | | -1 | | | | | 0 | -7 |
| Jamshoro | -3 | | -3 | | -6 | | -1 | | | -1 | | | | | | 0 | | | | | 0 | | | | | 0 | -7 |
| Kashmore | | | | | 0 | | 2 | | 3 | 5 | -1 | -1 | | | | -2 | | | -2 | -1 | -3 | | -3 | -2 | -3 | -8 | -8 |
| Tando Muhammad Khan | 2 | | 2 | | 4 | | | | | 0 | -2 | -2 | -2 | -3 | -2 | -11 | | | | | 0 | | | -3 | | -3 | -10 |
| Badin | -2 | | -2 | -2 | -6 | -2 | | -3 | -2 | -7 | | | | -1 | | -1 | | 1 | -1 | | 0 | -1 | | | | -1 | -15 |
| Thatta | | | | | 0 | | | | | 0 | -3 | -3 | -3 | -2 | -3 | -14 | -2 | | | | -2 | -3 | -2 | -1 | -2 | -8 | -24 |

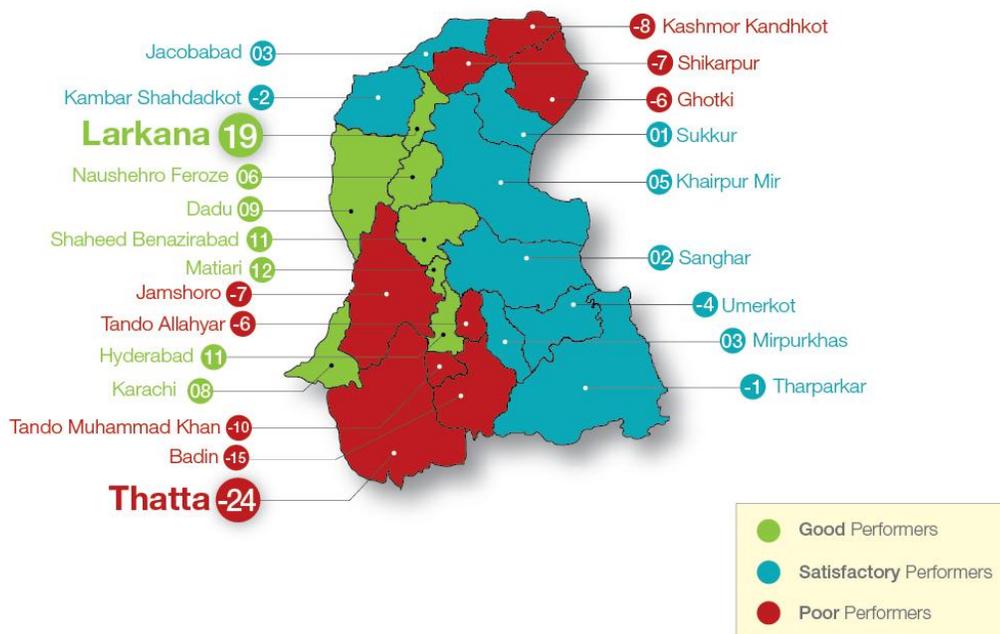


FIGURE 21: SINDH DISTRICT-WISE ESI

4.2 POOR PERFORMERS

Districts that have achieved an ESI of less than -5 are categorized as “Poor Performers”. These include Thatta, Badin, Tando Muhammad Khan, Kashmore, Jamshoro, Shikarpur, Tando Allah Yar and Ghotki. Most of these districts are in southern Sindh. Whether performance is significantly affected by location will be analyzed in Section VI. Since the supply of schools is problematic in these districts, key issues that need to be addressed to improve supply of schools in the district have been identified. It is important to note that the focus areas identified here only pertain to the supply of primary schools in the province.

4.2.1 THATTA

Thatta has a total average enrolment rate of 59% with boys’ enrolment rate at 60% and girls’ enrolment of 57%. The gender disparity in enrolment in Thatta is lower than other districts in Sindh. Even though the enrolment in district is low, girls are not worse off. Thus, the district does not require special focus on increasing female enrolment, but rather on increasing enrolment as a whole.

Only 77% of the schools in the district are functional which explains the low enrolment. Surprisingly, Thatta has the highest numbers of schools per 1000 students in the province. However, it has a lower number of average classrooms per school and one classroom for 53 pupils, which points towards a need for reviving non-functional schools.

Thatta has the worst condition in terms of school facilities as only 33% of the schools have toilets, only 17% have water which is the lowest, only 12% have electricity which is the 3rd lowest and 37% have boundary walls making it the second lowest in the province.

Most of these findings were substantiated by a visit to schools in the district. The details of the visit are discussed in Section V.

PRIORITY AREAS

- Reviving Non-Functional Schools
- Improving Basic Facilities

4.2.2 BADIN

Badin has second lowest average enrolment rate in the province at 48% with a higher public but lower private enrolment rate according to SEMIS. The difference between girls' enrolment (38%) and boys' enrolment (55%) in Badin is greater than most other districts.

Badin still accounts for a higher rate of functioning schools. 93% of schools in Badin are functional, which makes an average of 11 functional schools/1000 children which is higher than most cities. Despite higher number of schools, it has one of the lowest numbers of classrooms per school: 1.53 and only one classroom for every 54 pupils. There is need for consolidation of schools with fewer classrooms, into bigger schools.

The facilities in schools are also unsatisfactory; 46% schools have boundary walls, only 18% schools have electricity, 51% have toilet facilities, whereas only 23% have water facilities.

PRIORITY AREAS

- Consolidation of Schools
- Providing Water and Electricity to Schools

4.2.3 TANDO MOHAMMAD KHAN

Tando Mohammad Khan has the second highest enrolment rate of 78% according to SEMIS, but ranks second lowest for enrolment, according to PSLM. Boys' enrolment is 88% and girls' enrolment is 64%. However, the higher enrolment is due to higher private enrolment. Tando Mohammad Khan has the highest private enrolment for both girls and boys in Sindh after Karachi.

85% public schools in Tando Mohammad Khan are functional with fourth highest number of functional schools per 1000 students. There are 1.68 classrooms per school on average with one classroom for every 47 students. While the private sector has filled the gap in the district, public schools in Tando Muhammad Khan need to be consolidated into bigger schools.

The schools in this district greatly lack facilities: 59% of the schools have boundary walls, 44% schools have water, 46% schools have toilets and only 8% schools have electricity.

PRIORITY AREAS

- Consolidation of Schools
- Provide Electricity to Schools

4.2.4 KASHMORE

Kashmore has an average enrolment rate of 58%. Boys' enrolment in the district is considerably higher than girls' enrolment which is lower than even Thatta and Tharparkar. Boys' enrolment in Kashmore is 72% ranking 6th whereas girls' enrolment stands at only 41%.

The number of functioning schools is amongst the lowest in the province. There are 1224 (82%) functional schools, with only eight schools/1000 children. Kashmore has the second lowest number of classrooms per school that is 1.53 classes per school with one classroom for every 68 pupils.

The condition of schools in Kashmore is also deplorable. It has the lowest percentage of schools with boundary walls in the province at 34%. Only 8% of the schools in Kashmore have access to electricity, 25% schools have toilets, and 38% of the schools have water facility.

PRIORITY AREAS

- Reviving Non-Functional Schools
- Improve Basic Infrastructure for Public Schools

4.2.5 JAMSHORO

According to SEMIS, Jamshoro has the lowest total enrolment at 47% in Sindh. The total girls' enrolment is approximately 42% which is below provincial average. Boys' enrolment is also the lowest at about 51%.

Jamshoro has the least number of functional schools that is 672 schools which constitute 82% of public schools in the district. It is recommended that the number of functional schools are increased and the enrolment in the present functioning schools is increased to bridge the gender gap in education. Jamshoro only has 5 functional schools per 1000 children, with an average of 3 classes per school, and one classroom for every 50 students.

Even though 81% of the schools have boundary walls, 55% have toilets, only 16% of the schools have electricity and 35% have water.

PRIORITY AREAS

- Reviving Non-Functional Schools
- Provide Electricity and Toilets to Public Schools

4.2.6 SHIKARPUR

Shikarpur has a total enrolment rate of 48%. It ranks the fourth lowest in terms of boys' enrolment and third lowest for girls' enrolment.

Seventy eight percent schools in Shikarpur are functional indicating a reasonable unused capacity available to increase the enrolment rate. Shikarpur has six schools per 1000 children, which is 4th lowest in the province. Each school has an average of 2.7 classrooms per school with one classroom for every 50 students.

Further, the condition of functional schools is also poor. Only 74% of these schools have boundary walls, 58% have toilet facilities which are less than Umerkot; and only 57% have water. Only 20% schools in Shikarpur have electricity.

PRIORITY AREAS

- Reviving Non-Functional Schools
- Providing Electricity

4.2.7 TANDO ALLAH YAR

Tando Allah Yar has a considerably higher total enrolment rate at 66% which is the same as Hyderabad and it is one of those cities where the difference between public and private enrolment is negligible. There is high gender disparity in the district with boys' and girls' enrolment at 76% and 55% respectively.

There are 7 schools per 1000 students on average, with an average of 2.28 classes per school with one classroom for every 52 students.

76% have boundary walls, 66% have toilets and 48% have access to water whereas only 16% have electricity.

PRIORITY AREAS

- Consolidation of Schools
- Provide Electricity in Schools

4.2.8 GHOTKI

Ghotki has an average enrolment rate of about 51%. Girls' enrolment rate is half that of boys' enrolment at 33% and 66% respectively.

Even though 93% of the schools in Ghotki are functional, they amount to only 7 schools per 1000 with 1.92 classes per school with one classroom for every 66 pupils. Since most schools are already functional, there is a need to construct more schools in the district.

70% schools have water facility, but only 55% have toilets, 56% have boundary walls and only 25% have electricity.

PRIORITY AREAS

- Consolidation and Construction of Schools

4.2.9 UMERKOT

Total enrolment rate in Umerkotis50%. The enrolment for boys is 60% and enrolment for girls is about 40%.

Despite only 76% schools in Umerkot being functional, there are still 10 schools per 1000 children. There are 1.70 classrooms per school, which indicates that there is a need for consolidation of schools.

The overall school's conditions look wary. 48% schools have no boundary walls, 78% have no electricity, 59% have toilets and only 25% have water.

PRIORITY AREAS

- Provision of Water and Electricity

4.3 GOOD PERFORMERS

Districts that have scored an ESI of more than 5 have been categorized as “Good Performers”. These include Larkana, Mitiari, Hyderabad, Shaheed Benazirabad, Dadu, Karachi and Naushero Feroze. The ESI is a composite of performance in terms of enrolment levels, school functionality and availability of facilities. Enrolment still needs to be increased in the districts performing well according to the ESI but since the supply of schools is relatively better in these districts, the policy makers should explore demand side issues to increase enrolment in these districts.

4.3.1 LARKANA:

The total average enrolment rate is about 58% with a high average boys’ enrolment rate at 63% and girls’ enrolment at 50%.

99% schools in Larkana are functional. There are thus 5 functional schools for every 1000 children in the province. There are 3.66 classes in every school on average with one classroom for every 58 students.

While only 27% schools have electricity, 85% of schools have boundary walls, 80% schools have water facilities, and 79% have toilets, making it one of the best districts in the province, infrastructure-wise.

This indicates that Larkana is best utilizing its current infrastructure, and to increase enrolment, more schools will need to be constructed.

Most of these findings were substantiated by a visit to schools in the district. The details of the visit are discussed in Section V.

4.3.2 MITIARI

Mitiari has the highest enrolment rate with a considerably higher contribution from private sector than other many cities. It has 86% enrolment rate with boys’ enrolment at 98% and girls’ enrolment rate at 73%.

93% schools in Mitiari are functional. Despite significant contribution from the private sector schools, there are 10 public schools for every 1000 children, which is much higher than the provincial average. There are 2.54 classes per school, but with one classroom for every 39 students, the class size is moderate.

The infrastructure facilities are quite satisfactory. 80% of schools have boundary walls. 74% have toilets and 65% have water facilities which are more than Karachi and Hyderabad and only 23% have electricity. Hence, Mitiari needs to increase the number of schools which have water and especially electricity, in order to increase enrolment.

4.3.3 HYDERABAD

Hyderabad has the fourth highest average total enrolment at 66%. The difference between private enrolment and public enrolment is negligible with the former at 32% and latter at 34%. Boys' enrolment is 70% and girls' enrolment is 62%.

Ninety six percent schools in Hyderabad are functional. However the district has the second lowest number of schools/1000 students with 4 functioning schools per 1000 students. A greater number of average classrooms per school at 5.38 and a class to pupil ratio of 50 explain the higher rate of enrolment.

Twenty one percent schools in Hyderabad have electricity, 80% have boundary walls, 78% have toilets and about 62% have water available for the students.

4.3.4 SHAHEED BENAZIRABAD

The total average enrolment rate in Shaheed Benazirabad is 66%. The enrolment rate for boys and girls is higher than that of Karachi and Hyderabad with 76% and 56% respectively.

Eighty nine percent schools in Shaheed Benazirabad are functional with 12 functional schools/1000 children, which is the second highest in the province. It has a low class/school ratio but the second lowest pupil/class ratio with 1.91 classrooms/school with one classroom for every 40 pupils.

67% of the schools in Shaheed Benazirabad have water facilities, 59% have toilets, 56% have electricity which is the third highest in the province and 65% have boundary walls.

4.3.5 DADU

Dadu has a total average enrolment rate of 65% with 73% enrolment for boys which is the same as Karachi and 57% enrolment for girls.

Ninety three schools in Dadu are functional with an average of 8 schools/1000 students with one class for every 54 students.

Sixty one percent schools have no water, only 34% have electricity which is the fifth highest but still very low. Half of the schools have no toilets and 34% of school have no boundary walls.

4.3.6 KARACHI

Karachi has the third highest average enrolment rate of 71%. It is the only district in Sindh where private enrolment is substantially higher than public enrolment with the former at 58% and latter at 13%. Gender disparity in enrolment is also low with boys' enrolment at 73% and girls' enrolment at 70%. Both have high private enrolment and low public enrolment.

Ninety percent public schools in Karachi are functional. However, there are only 2 schools/1000 students. Karachi also has the highest classroom/school ratio of 5.57, but there is only one classroom for 105 pupils. While the private sector compensates for the shortage of public schools, more public schools are needed to ensure equitable and affordable education for all.

Ninety two percent schools in Karachi have boundary walls, 85% have electricity which is the highest in Sindh, 75% have toilets-which is the fourth highest, 63% have water which is higher than average. Karachi enjoys relatively better facilities due to its metropolitan status.

4.3.7 NAUSHERO FERROZ

Naushero Feroze has a total average enrolment rate of 58%. The gender disparity is high with average boys' enrolment at 67% and girls' enrolment at 50%.

There are 2248(93%) functional schools in the district. It has the fifth highest average number of schools per 1000 students with 11schools/1000 students. However, this hasn't translated into a higher enrolment rate in the district. This may be explained by a low classroom to school ratio of 2.15 with one classroom for every 40 students.

The district has the highest availability of water facility with 81% schools with water; fourth highest percentage of schools with electricity (49%); 59% schools with toilets, higher than the district average; and 61 % schools with boundary walls.

4.4 SATISFACTORY PERFORMERS

Districts with ESI between 5 and -5 are categorized as "Satisfactory Performers". These include Khairpur Mir, Jacobabad, Mirpurkhas, Sanghar, Sukkur, Kambar Shahdadkot, Tharparkar, and Umerkot.

4.4.1 KHAIRPUR MIR

Khairpur has a total average enrolment rate of 55%. Public enrolment is higher than private enrolment. Gender disparity in school enrolment is low; boys' enrolment is 55% and girls' enrolment is 48%.

Ninety percent schools in Khairpur are functional with an average of 8 schools per 1000 children. There are 2.42 classrooms/1000 children with one class for every 46 students.

58% schools have boundary walls, 65% have electricity facilities. Facilities like water and toilets are also available to a larger extent as compared to many other cities, as 69% have toilets and 77% have water.

4.4.2 JACOBABAD

Jacobabad has a total average enrolment rate of 70%, which is much higher than the provincial average. Boys' enrolment rate is higher than Karachi at 76% and girls' enrolment is 63%.

Ninety two percent schools are functional and there are 8 schools/1000 students on average with an average classroom to school ratio and one classroom for every 63 pupils on average.

Jacobabad has high enrolment despite unsatisfactory school infrastructure. Only 34% schools have access to water, 42% have toilets, 48% have boundary walls and only 19% of the schools have electricity.

4.4.3 MIRPURKHAS

Despite a high total average enrolment rate of 60%, gender disparity in Mirpurkhas is large with a higher enrolment for boys at 72% which is among the highest in the province whereas much lower for girls at 45%.

There are 1810 (82%) functional schools in the district with 8 schools/ 1000 students. Each school has 1.92 classrooms on average with one class for every 52 students.

54% of schools in the district have toilets, 46% have boundary walls, only 31% have water and only 24% have electricity. Therefore, it needs to focus on these facilities and improve them to improve the conditions of schools.

4.4.4 SANGHAR

Sanghar has a low total average enrolment rate of 51%. It has a slightly better enrolment for boys at 60% and 40% for girls.

Only 10% schools are non-functional with 8 schools per 1000 students and each school has 1.89 classrooms on average with one classroom for every 57 pupils.

Only 59% schools have boundary walls, 43% have toilets, and 40% have access to water while only 31% have electricity which is better than most districts.

4.4.5 SUKKUR

The total enrolment rate is high at 62% with the fifth highest enrolment for boys at 70% and a higher than average enrolment for girls at 51%.

Ninety four percent schools in Sukkur are functional. There are 6 schools/1000 children and the classroom to school ratio is 3 with one classroom for 53 students.

Sukkur has the third highest number of schools with toilets (76%). It has the fourth highest rate of water access at 75%, and 69% schools have boundary walls but only 25% of schools have electricity.

4.4.6 THARPARKAR

The total average enrolment rate in Tharparkar is 67% with 65% enrolment rate for boys and 69% enrolment for girls. It is the only district where girls' enrolment is higher than boys' enrolment. Private school enrolment is negligible in the district.

Even though, it has the highest number of schools after Karachi, only 79% are functional. Tharparkar has the highest ratio of schools/1000 children with 13 schools but the least number of classes per school with 1.29 classes per school for 46 students in each room.

School facilities are poor with only 22% schools with water facility, 38% with toilets, 34% with electricity, and only 41% with boundary walls.

4.4.7 SHAHDADKOT

Shahdadt has a total enrolment of about 51% with boys' enrolment of 57% and girls' enrolment of 45%.

Ten percent schools in Shahdadt are non-functional. It has 6 schools/1000 students with 2.15 classes in each school average. There is one classroom for every 69 students.

Along with utilizing its non-functional schools, Kambar-Shahdadt should focus more on infrastructure and facilities in schools, given that 61% of schools have no water, 49% have no toilets, and 39% lack boundary walls whereas 73% have no electricity.

SECTION V: A TALE OF TWO CITIES

In order to validate the findings of this report, 8 randomly selected public primary schools in Thatta and 16 in Larkana were visited. These visits were conducted to broadly gauge the accuracy of the results presented in this report. The findings of this report were confirmed by gathering data from schools via a structured questionnaire, interviews with teachers, local administration and parents.

The state of the schools in both districts was visibly different. There were fewer non-functional schools in Larkana than in Thatta; and functional schools had a better standard of education in Larkana. Students in Thatta were unable to answer basic arithmetic and science questions, but students in Larkana displayed better numeracy, reading, writing and comprehension skills. While schools in Larkana were bigger in terms of classrooms/school, schools in Thatta were smaller. Larkana also had higher enrolment, but absenteeism rate was high.

It was found that the District Education Officer and his subordinates actively monitored schools in Larkana while school management in Thatta reported lack of interest by the DEO there. More efficient monitoring of schools in Larkana is a result of the political importance of the city as the hometown of the Bhutto's (founders of the ruling party in Sindh). Contrary to popular belief, political influence had positive impact on the performance of schools in Larkana. It can be assumed that disinterest by politicians in Thatta resulted in an indifferent attitude by officials responsible to monitor schools in the district. A more detailed study is required to identify the specific underlying causes of such variation in the districts in Sindh.

Some district specific observations are highlighted below. All poor performing districts are expected to suffer from the same issues as Thatta.

5.1 THATTA

Thatta was identified as the worst performing district according to the analysis in this report. To investigate the reasons for this, 8 primary schools were visited. These included:

- 4 girls' schools
- 3 boys' schools

5.1.1 FUNCTIONAL SCHOOLS

Of the 7 schools, two were non-functional. Both the non-functional schools were located in a remote village and on enquiry from the high school in the same village, it was found that the District Education Officer had never visited the school and the Assistant District Education Officer had visited only once in the previous year. It was also found that both schools were closed because there was only one teacher appointed for that school and that teacher was seldom present in school. One of the functional schools was closed on account of a sports' event happening in a nearby high school which the students had gone to attend. This information was verified and found to be true.

5.1.2. ENROLMENT

Visited schools that were functioning had an average enrolment of 100 students. Most enrolled students were present at the time of visit. It was also seen that the number of students enrolled in all schools decreased as class size increased. This was more evident in the girls' schools that were visited. On further questioning, it was found that it was not only due to parent's reluctance to send older girls to school but also because very few girls passed the promotion exam to be sent to the next class.

5.1.3 CLASSROOMS/SCHOOL

The number of classrooms per school varied from school to school. Of the four functional schools, one school had 15 rooms while one had three and the remaining two had none. In the latter, classes were held in open air. In one school, which had three rooms, classes were being conducted for different grades in the same room. On one side of the room, a teacher taught Grade 5, while on the other side, a teacher was teaching Grade 1 students.

5.1.4 SCHOOL INFRASTRUCTURE

Of the remaining 4 schools, two had electricity connections, drinking water and functional toilets. All four schools had textbooks provided to them¹⁶. In all four schools, majority of the students wore uniforms.

All schools had boundary walls. However, in one of the girls' schools, boundary walls were missing from one of the sides. The headmistress complained that this caused a number of problems:

- Girls climbed out of windows to bunk school
- Activity on the street outside the window distracted students
- Passersby looked inside and cause girls to feel insecure

Two schools had no furniture at all, except a few chairs for the teachers. In the two schools where there was furniture, it was reported that it was less than required and despite promises by authorities, furniture was not provided.

5.1.5 OTHER ISSUES

Only one school had an adequate number of teachers. Further, no evidence of a functional School Management Committee (SMC) was found at any of the schools visited.

A ghost teacher was identified in the boys' primary school where other teachers complained that one of the teachers had not shown up since his appointment 4 months ago. There were

¹⁶ GoS distributed 3,386,593 book sets to primary school students, which is actually more than the number of primary school going students according to the SEMIS.

no girls in the rural high school. There were also 11 teachers for 66 students in that school. Students were asked basic arithmetic and science questions which they failed to answer.

It also became evident that schools which were in better conditions than the rest were supported by the local community elders that kept a check on teacher attendance and ensured the maximum number of children from the nearby households attended schools.

5.2 LARKANA

Larkana was identified as the best performing district according to this report. To investigate the reasons for this, 16 primary schools were visited. These included:

- 2 girls' schools
- 14 boys' schools

Due to fewer girls' primary schools in the district, boys' schools functioned as mixed schools. Girls were enrolled in all the boys' schools that were visited.

5.2.1 FUNCTIONAL SCHOOLS

Of the 16 schools, only one was non-functional. The non-functional school was located in a remote area, away from any settlement. Concerned authorities maintained that the school building was still under construction and has not been handed over for teaching purposes. The district had a high proportion of functioning schools because of efficient administration by the District Education Officer and his subordinates. They visited schools regularly, regardless of how far they were from the urban centre.

5.2.2 ENROLMENT

Visited schools that were functioning had an average enrolment of 500 students, however it was found that absence rate was high. On further enquiry, it became clear that absence rate was high due to the ongoing rice harvest season. Children were expected to help with the harvest or stay home and manage the household.

5.2.3 CLASSROOMS/SCHOOL

The number of classrooms per school varied from school to school. On average, there were 8 classrooms per school. There were two schools with more than 20 classrooms, while two schools were without a building and classes were conducted under trees.

5.2.4 SCHOOL INFRASTRUCTURE

Of the functional schools visited, 10 were equipped with functional toilets, drinking water and electricity. All of these 10 schools also had boundary walls. Three schools did not have drinking water or toilets, while two were without a building.

Most schools were adequately furnished. The shelter-less schools also had benches and blackboards. Although all schools were given textbooks, very few students in the entire district wore uniforms.

5.2.5 OTHER ISSUES

Schools in Larkana were performing much better than schools visited in Thatta. However, two issues were identified: teacher unions and political influence. Both teacher unions and politicians imposed undue pressure on the administration to appoint teachers in certain areas.

SECTION VI: REGRESSION ANALYSIS

A cross sectional analysis of all available secondary data was conducted to determine which indicators significantly affect the education performance of a district and to what extent. Education performance, as measured by the ESI from the previous analysis, was treated as the dependent variable. Independent variables included demographic variables, education indicators, political factors, environmental factors, historical factors, and financial factors.

6.1 RESULTS

Table 25 presents the results for estimation of determinants of ESI. The model was specified as:

$$y_i = X_i' \beta + \varepsilon_i$$

where y_i is the education performance of district i , as measured by the ESI; X_i are the independent variables that include demographic variables, education indicators, political factors, environmental factors, historical factors, and financial factors, β is the effect of the explanatory variables in model and ε_i is the error term.

TABLE 25: REGRESSION RESULTS

| | ESI |
|---------------------------------|---------------------|
| Latitude | 3.501 (2.28)* |
| Functional Schools per Thousand | 3.143 (2.70)* |
| %age Schools with Electricity | 21.225 (2.32)* |
| Classrooms Per School | 8.729 (2.49)* |
| _cons | -148.259 (2.89)* |
| <i>Adjusted R²</i> | 0.5611 |
| <i>F-statistics</i> | 8.03 |
| <i>N</i> | 23 |

* $p < 0.05$

The cumulative influence of all the independent variables put together is able to explain the dependent variable up to 56% as indicated by the adjusted R^2 and remaining 44% is explained by other factors. Similarly, the result of the F- statistic value of 8.03 implies that the joint explanation given by the independent variables is significant at 1%. All of the coefficients have expected signs as discussed below.

LATITUDE: Defined as the distance from the equator. One unit increase in Latitude increases the ESI by 3.757 units. Districts in the north have performed better than districts in the south. This points towards a need for reevaluation of education management in the south.

FUNCTIONAL SCHOOLS PER THOUSAND: Calculated as number of functional primary schools per thousand children between the ages of 5 to 9. One additional functional school per thousand children increases the ESI by 2.59 points. This result has two implications: first, non-functional schools must be revived to increase education performance of a district and second, in districts with most schools functioning, new schools must be built. This has been discussed in Section IV.

PERCENTAGE SCHOOLS WITH ELECTRICITY: One percentage point increase in schools with electricity raises ESI by 24.93 points. Other basic facilities do not have a statistically significant impact on the education performance of a district. With computer education becoming a need of modern learning, electricity supply to schools is even more necessary.

CLASSROOMS PER SCHOOL: One additional classroom per school increases the ESI by 8.82 points. This further establishes the need for consolidation of schools in the province.

Other variables that were included but found insignificant are:

AREA: Bigger districts were expected to have lower ESI

POLITICAL PATRONAGE: Defined as a dummy variable that takes the value 1 if all elected representatives of the National Assembly in the district belong to the same party, and 0 if they belong to different parties. Multi-party electoral competition, political knowledge, the extent to which the elite dominate the politics and the extent of centralization of governance can all be powerful forces influencing the provision of basic educational services. Even though no significant effect was found, better data on political knowledge of electorate may yield better results.

FLOOD DAMAGE: It was also found that the extent to which districts have been affected by floods does not have a significant effect on the education performance in any district.

6.2 DISCUSSION

As established in the preceding section of this report, education performance in Sindh varies from district to district. Further, there is also a large disparity in enrolments between metropolitan areas and remote districts. Some of this disparity may be demand driven but is also found that supply of schools also differs from district to district.

It is seen that the supply of education in upper Sindh is different from that in lower Sindh. The neighboring districts of Badin, Thatta, Tando Muhammad Khan and Tando Allah Yar, which all lie in the south of Sindh, fall in the poor performing category. This warrants further exploration of the inherent socio-political conditions in Sindh and the administration responsible for schooling in districts in the upper and lower parts of the province.

Empirical analysis establishes that a larger number of functional schools improve the education performance of a district. While intuitive, it reaffirms the importance of not allowing local influentials to use the schools for their personal activities. It is common knowledge that a number of schools are used as *autaq*s by the local landlords. Schools are also converted to temporary shelters in times of natural (floods) and manmade (Internally Displaced Persons) disasters. This practice must be stopped if the government is serious about educating children.

Provision of electricity to schools is an important factor in determining performance of districts. Although, for daytime learning, it may be argued that electricity may not be important. However, given the weather conditions, small classrooms without fans, packed with tens of students, makes for a dysfunctional learning environment. Provision of electricity has become more critical in modern times as schools cannot provide adequate education without computers and internet access. The impact of other infrastructure measures such as presence of boundary walls, provision of water and toilets was also examined and found to be insignificant due to high multicollinearity. In literature on schools in developing countries, electricity is also interpreted as a general indicator of the physical condition of the school.

Similarly, there is need to build bigger school buildings with more classrooms as opposed to smaller single room schools which have been built to extract political gains in the short term. This finding is in line with empirical research in other developing countries where school size is a significant factor in determining not just student achievement, but also significantly reduces fixed costs per unit and monitoring costs. Thus, bigger schools are more efficient. Larger schools also tend to have higher pupil:teacher ratios, which, due to dearth of qualified teachers can prove to be an added advantage. However, the government will need to provide alternative methods of transportation for children as increased distance from schools can affect enrolment negatively.

SECTION VII: BUDGET ANALYSIS

Resource allocation to schools is an instrument of educational reform and an indicator of policymakers' commitment to bringing improvement. Developed countries have moved on from an evenly-based school funding system to a needs-based funding formula for allocating resources to public schools. A needs-based formula allocates budgets differentially to schools on the basis of the different factors such as socioeconomic background of the students, location, teacher quality etc.

After the 18th Constitutional Amendment, education has been devolved from a federal subject to a provincial one. The Government of Sindh education ministry is responsible for resource allocation to schools.

7.1 PROVINCIAL BUDGETARY ALLOCATION ON EDUCATION

In Sindh, of a total provincial budget of Rs 686.18 billion, Rs 145.02 billion (21.13 percent) has been set aside for education, Rs 10 billion more from last year's Rs 135.55 billion.

The budget puts aside Rs 134.32 billion for current expenditures (salary) and only Rs 10.7 billion have been allocated as development (non-salary) budget. Salaries, thus, comprise approximately 95% of the education budget while development expenses are less than 5% of the entire spending on education (Figure 22). Given the state of infrastructure and facilities in public schools in Sindh, a greater proportion of the budget needs to be allocated towards development. There also needs to be better monitoring of human resources to ensure that budget is utilized more effectively. Currently, there is high absenteeism among teachers.

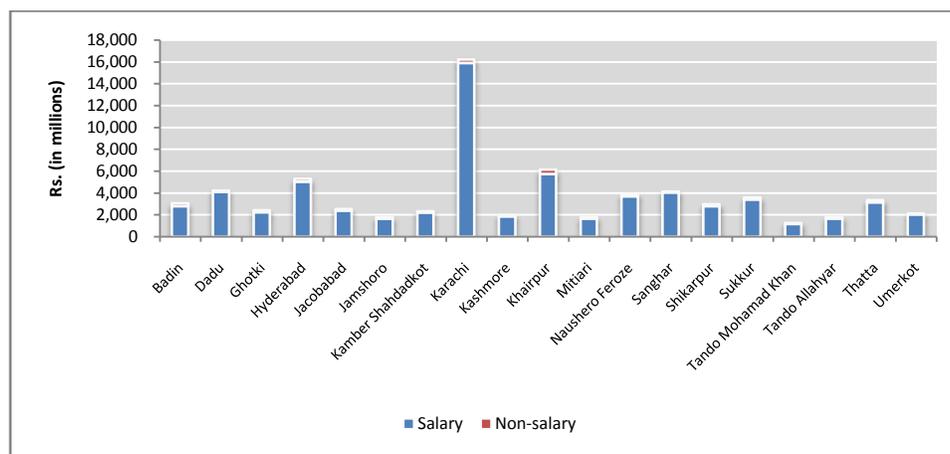


FIGURE 22: DISTRICT WISE EDUCATION BUDGET

The Government of Sindh has made separate school specific budgets for 43,000 schools in Sindh in order to ensure that each school gets its earmarked budget (Figure 24).

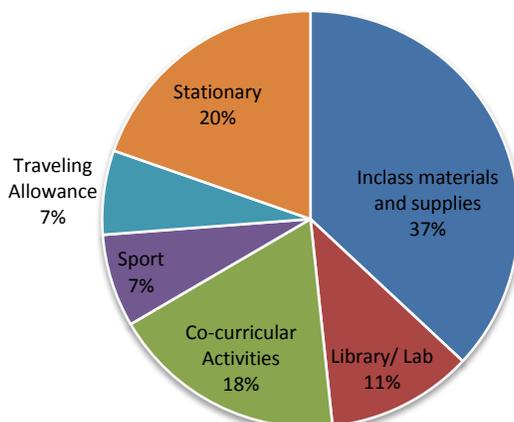


FIGURE 23: SCHOOL SPECIFIC BUDGET 2014-15

In Sindh, only 2.59% public schools have a library and 2.34% have science laboratories, while 11% of the budget has been allocated to libraries and laboratories (Figure 23). Similarly, teachers are allocated 7% of the school budget as travel allowance, yet teachers are absent from schools in far-flung remote villages.

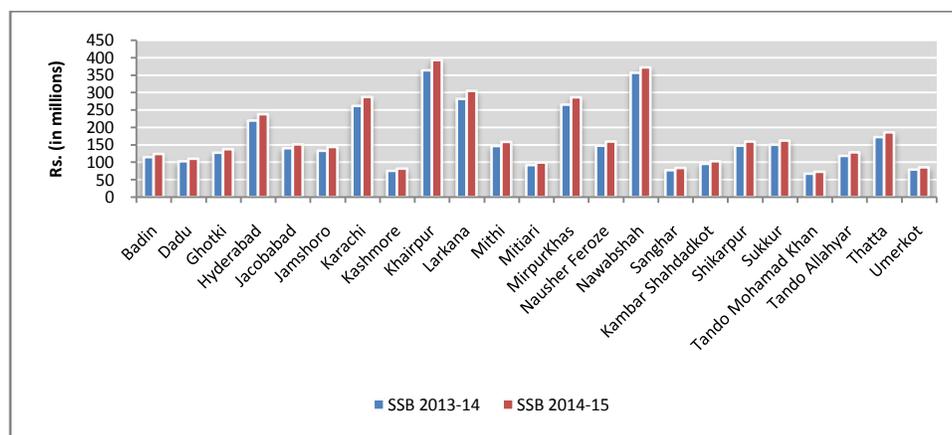


FIGURE 24: DISTRICT WISE SCHOOL SPECIFIC BUDGETS

7.2 ANNUAL DEVELOPMENT PROGRAMME 2014-15

The Provincial ADP for FY 2014-15 has been reduced by 9% from Provincial ADP 2013-14, however ADP allocation for education remains unchanged at Rs.10.7 billion. This allocation comprises a number of schemes which include construction of shelterless schools, upgradation of primary schools to secondary schools, renovation and provision of furniture (Figure 25).

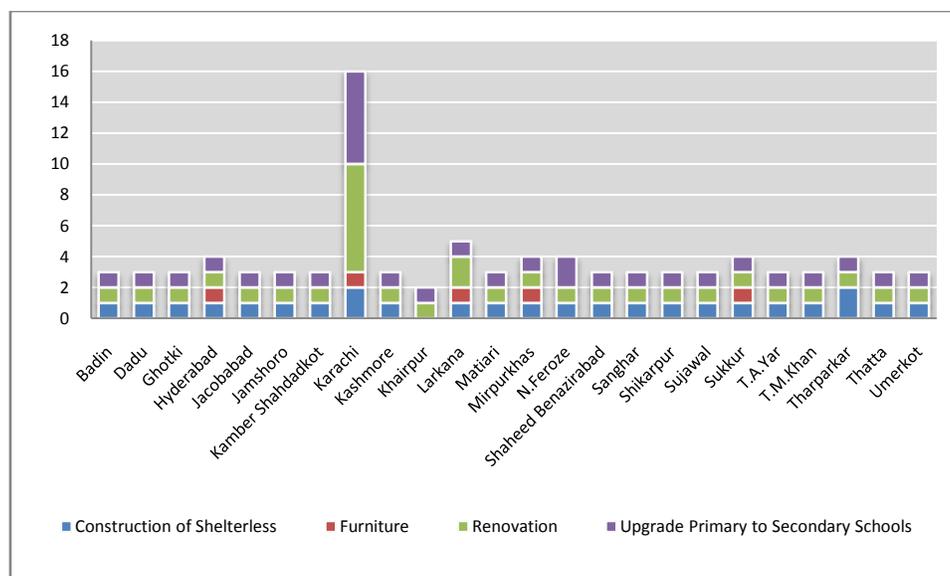


FIGURE 25: DISTRICTWISE NEW ADP SCHEMES

7.2.1 CLASSROOMS SHORTAGE

Following the Maimonides' rule of 40 students per class, Table 26 presents the number of additional classrooms that need to be built in each district to achieve 100% access to education for all children in Sindh.

TABLE 26: CLASSROOM SHORTAGE

| District | Number of Classrooms |
|-------------------|----------------------|
| Karachi City | 32188 |
| Kambar-Shahdadkot | 2576 |
| Sanghar | 2510 |
| Ghotki | 2461 |
| Larkana | 1967 |
| Badin | 1713 |
| Dadu | 1612 |
| Thatta | 1608 |
| Kashmore | 1598 |
| Jacobabad | 1575 |
| Khairpur Mirs | 1318 |
| Mirpur Khas | 1300 |
| Sukkur | 1233 |
| Hyderabad | 1224 |
| Shikarpur | 1086 |
| Tharparkar | 759 |
| Jamshoro | 637 |

| | |
|---------------------|-----|
| Tando Allah Yar | 563 |
| Umerkot | 316 |
| Tando Muhammad Khan | 295 |
| Naushero Feroze | 49 |
| Shaheed Benazirabad | -16 |
| Mitiari | -76 |

Government of Sindh had allocated and spent Rs. 942.421 million rupees on construction of new classrooms in a 2005-06 development scheme completed in June 2014. No further allocations have been made for construction of additional classrooms despite there being a dire shortage of classrooms across Sindh (Table 26). Data for number of classrooms in 2005-06 is not available, but number of classrooms as reported in SEMIS 2011-12 are greater than number of classrooms as reported in SEMIS 2013-14 (Figure 26).

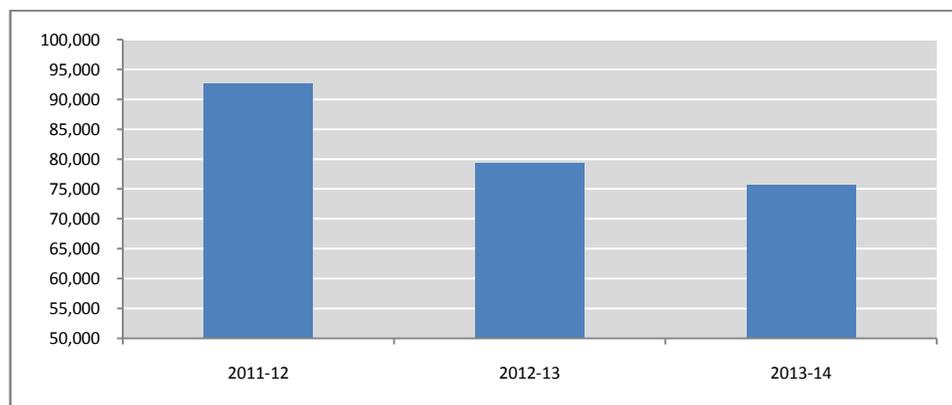


FIGURE 26: CLASSROOMS IN SINDH

7.3 SINDH EDUCATION REFORM PROGRAM

In addition to the above schemes, the GoS has also allocated Rs. 13.6 billion for the Second Sindh Education Reform Program. SERP II is a donor funded program for which the World Bank has lent \$2700 million to the Government of Sindh. The objectives of SERP I and SERP II are to raise school participation by improving sector governance and accountability and strengthening administrative systems, reduce gender and rural-urban disparities, increase progression, and measure student achievement. The components include: preparation of school budgets, both salary and non-salary components, following transparent, objective, and needs-based criteria; and third party support to the districts for managing and monitoring the flow and use of school budgets in line with applicable rules and regulations. Components of SERP II include:

- Rs. 1500 million for girl students' stipends x
- Rs. 1540 million for free textbooks to students
- Rs. 4000 million on improving infrastructure for schools
- Rs. 1750 million for School Management Committees for community identified school improvement investments

Under SERP II, GoS distributed 3,386,593 book sets to primary school students, which is actually more than the number of primary school going students according to SEMIS.

SECTION VIII: CONCLUSION AND RECOMMENDATIONS

This report presents a district-wise analysis of the supply of public schools and their facilities in Sindh using enrolment as a benchmark indicator to compare districts in the province. It identifies districts that are performing poorly in terms of enrolment, functional schools and facilities within schools. The report also submits recommendations for specific measures that need to be taken to improve performance. Results from districts which are categorized as poor performers are analyzed to highlight priority areas for government intervention. Data has been obtained from three sources; SEMIS, ASER, and PSLM. The analysis primarily uses SEMIS, which is a census of public schools in Sindh conducted by the government of Sindh. Since, there is no census data for private schools, sample estimates provided by ASER and PSLM have been used. It should be pointed out that the reliability of SEMIS data can be improved by introducing third party validation.

There is great disparity amongst districts on education indicators in Sindh. This report establishes that the worst performing districts are Thatta, Badin and Tando Muhammad Khan, and the best performing districts are Larkana, Mitiari, and Hyderabad. This result is based on rankings provided via an education score index which gives weight to chosen indicators. The index provides a cumulative average of weights assigned to indicators. The selection of these indicators does not preclude the importance of other determinants. It is submitted here that, further analysis will incorporate validated sets of indicators and also include the status of additional and relevant socio-economic factors. On-ground surveys will provide information for this analysis. These results will then serve to make comprehensive recommendations to policy makers vis-à-vis corrective measures to improve enrolment.

This report identifies issues that the Government of Sindh needs to address on a priority basis in the worst performing districts (Table 27). Based on the indicators analyzed in the report, these priority areas vary from district to district. In districts where there is greater number of functional schools, enrolment can be increased by reviving non-functional schools whereas in districts where there are fewer non-performing schools, additional schools need to be constructed. Almost all districts in Sindh face a shortage of classrooms. Similarly, infrastructure facilities in some districts need greater attention than others. The Government of Sindh now prepares district and school specific budgets for the education department. These budgetary allocations must be informed by data. A failure to do so makes data collection on a massive scale a futile activity.

TABLE 27: PRIORITY AREAS

| District | Priority Areas |
|---------------------|--|
| Thatta | <ul style="list-style-type: none"> • Reviving Non-Functional Schools • Improving Basic Facilities |
| Badin | <ul style="list-style-type: none"> • Consolidation of Schools • Providing Water and Electricity to Schools |
| Tando Muhammad Khan | <ul style="list-style-type: none"> • Consolidation of Schools • Provide Electricity to Schools |
| Kashmore | <ul style="list-style-type: none"> • Reviving Non-Functional Schools • Improve Basic Infrastructure for |

| | Public Schools |
|------------------------|--|
| Jamshoro | <ul style="list-style-type: none"> • Reviving Non-Functional Schools • Provide Electricity and Toilets to Public Schools |
| Shikarpur | <ul style="list-style-type: none"> • Reviving Non-Functional Schools • Providing Electricity |
| Tando Allah Yar | <ul style="list-style-type: none"> • Consolidation of Schools • Provide Electricity in Schools |
| Ghotki | <ul style="list-style-type: none"> • Consolidation and Construction of Schools |

It is also found that private enrolment in Sindh is much lower than public enrolment. The results are the opposite in Karachi. Hence, despite the recent focus of policy makers on the development of low cost private schools, there is a dire need for better and more public schools. It is a reasonable assessment that private and NGO run schools cannot operate on the scale that public schools can. This is evident from the fact that only 322 schools have been adopted by the private sector and more than half of these are in Karachi. Hence, evidence of little and ad hoc participation from the private sector and then more importantly the sheer magnitude of primary schooling requirement, reinforces the role that the state needs to play to provide better access to education in interior Sindh and deliver a transition to mass education. It must also be noted that there may also be intra-district disparity between urban and rural areas. An investigation of this disparity is excluded from this report due to non-availability of data.

A variable of critical importance in the study of human development is gender equality. A patriarchal society does not naturally encourage girls to go to school and the government has to introduce incentives to counter this bias. This report presents an expected result; female enrolment is consistently lower than male enrolment in all districts. Gender disparity is highest in Badin, Tando Allah Yar, Kashmore, Ghotki, Umerkot and Tando Mohammad Khan. The Sindh Education Reform Program I (SERP I) funded by the World Bank, which ended in June 2012, spent more than US\$ 300 on girl stipends which were aimed at bridging gender disparity in schooling. The program claims to have succeeded in increasing female-male ratio in rural primary schools from 61.2 in 2006/07 to 72 in 2010/11¹⁷. The results show that there has only been a limited impact. The key reform areas in SERP II, now underway, are school rehabilitation, community mobilization and school base management. It is evident from the analysis in this report that much more needs to be done to address this grave disparity which has pervasive negative effects on the country. There is in particular a need to shift monetary resources from paying salaries to absent human resources to investing in the physical infrastructure of public schools.

The government has been criticized by many monitoring agencies about the number of non functional and ghost schools in Sindh. A number of on ground surveys and inspections have been carried out to ascertain the actual status. According to a news report, 4,540 schools in the province are not functioning properly and the number of ghost schools is 2,181¹⁸.

¹⁷<http://www.worldbank.org/projects/P107300/sindh-education-sector-project-sep?lang=en>

¹⁸<http://www.thenews.com.pk/Todays-News-4-201783-4540-non-functional-2181-ghost-schools-in-Sindh>

However, this study which considers all secondary data available reports a poor but not dismal status. Functional schools, which are defined as schools under operation at the time of survey by SEMIS team, are surprisingly higher than expected; 88% of public schools in Sindh were functional in 2013. Any validation of this result requires on ground inspection. Nevertheless, factoring in a margin of error on account of misreporting, this result appears poor but presents a solvable problem. This result may partially be explained by the School Consolidation Program by the World Bank. As of December 2012, 1068 government schools have been consolidated in seven districts¹⁹. The proportion of non-functional schools remains high in Thatta and Tando Muhammad Khan. It is also seen that some districts such as Tharparkar and Khairpur have a larger number of schools but a relatively less proportion of them are functional. Other districts such as Hyderabad and Larkana have fewer number of schools but a bigger proportion of them are functional.

Field visits to public schools in the districts of Larkana (best performer) and Thatta (worst performer) validated findings of this report. On-ground performance highlighted the role of District Education Officers and the need to put in place a monitoring and evaluation system for teachers and schools. There were only a few well-functioning schools in Thatta. These schools functioned well due to self-motivated teachers and the headmaster/headmistress in the schools. In contrast, most schools in Larkana were functioning well, despite hurdles created by teacher unions due to active monitoring by the DEO. DEOs form an important link between the policymakers and the schools and there is thus a need to strengthen their role in all districts in the province and develop their leadership, management, strategic planning and communication capacities. The responsibilities of the DEO need to be clearly stated in the form of a mandate, and they should be involved in the decision making process.

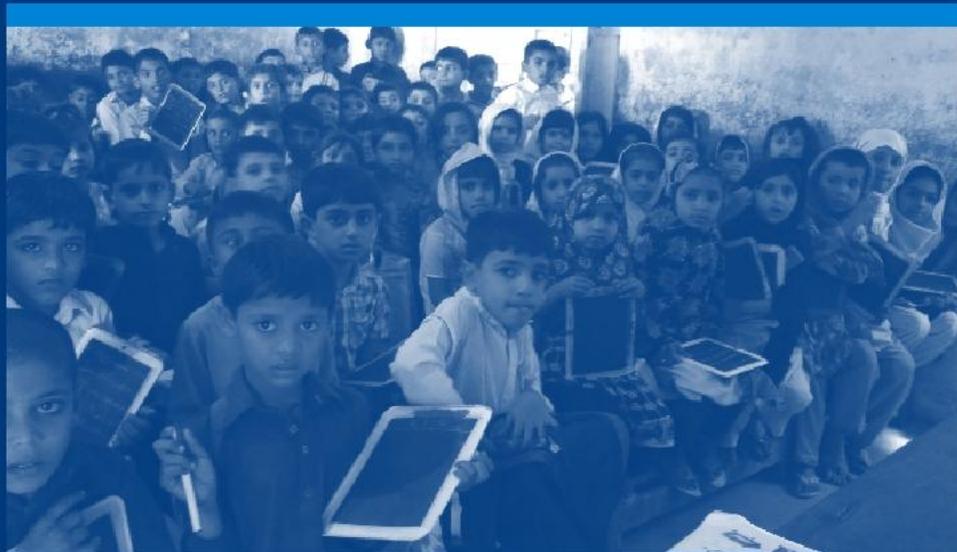
An empirical analysis was conducted to determine the factors that most significantly affect the ESI, Variables that significantly affected ESI were found to be the location of the school, the percentage of schools functional in a district, the classes per school and percentage of schools in a district with electricity provision. It was found that districts in the south of Sindh performed worse than districts in the north of Sindh. It is important to further explore the causes of this disparity between the north and south. Effect of the latter three variables was found to be positive. These results are in line with global empirical findings that suggest bigger schools with more classrooms are better for student learning and are more cost efficient due to lower fixed and monitoring costs. This report concludes that provision of electricity contributes the most towards affecting primary school performance in all districts in Sindh. Although, for daytime learning, it may be argued that electricity is not seem as important. However, given the weather conditions, small classrooms without fans, packed with tens of students, makes for a dysfunctional learning environment. In terms of all facilities, Kashmore and Thatta are the worst off while Larkana and Karachi perform better. Educationalists, who delve into the realm of understanding demand for education, assess the conditions of functional schools and debate motivation for young children to attend school. Schools which do not offer any relief from hard conditions at home do not tilt the decision in favor of attending school. In fact the opportunity cost of attending schools which have poor facilities and an unpleasant environment, is higher than the cost of staying away.

¹⁹Government of Sindh Education & Literacy Department
<http://www.sindheducation.gov.pk/educationReforms/sc.jsp>

The goal as stipulated by international human development agreements to which Pakistan has ratified, is increasing primary school enrolment to hundred percent²⁰. Although, this target is now supported by legislation, achieving this goal is a gargantuan task and requires firstly an accurate assessment of the supply of education, and secondly and very importantly a clear insight and understanding of all demand led factors. Hence, community support, religious factors, and motivation are relevant determinants. This report focuses only on supply and physical infrastructure of schools. It precludes a discussion on quality of education and the research objective is to devise a scheme to deliver mass primary education. Learning outcomes are left for a later stage since access to education precedes quality of education.

It can be argued, that before educationalists start thinking about improving quality of education, they must focus on getting children to school, and to do so there must be enough schools with a minimum requirement of essential facilities that provide effective spaces for teaching and learning. Policy makers must recognize that mass education is a precursor to economic development and not the other way round. Hence provision of functioning schools should be of key priority in their development agenda. Policies aimed at increasing the number of functioning schools and at improving enrolment rates in general should also consider the impact of non-economic factors on outcomes. Pakistan's socio-political terrain cannot be dismissed as insignificant and if mass education through public schools is to be delivered, policies have to interwoven into communities seamlessly. The private sector, NGO's and international donors are all add-ons and although some burden may be shifted to them, the government remains legally and ethically responsible for educating the seven million children who live in Sindh. In conclusion, public schooling is the single most powerful agent to enable a transition to mass education in the country.

²⁰ Target 2.A, Millennium Development Goals <http://www.un.org/millenniumgoals/education.shtml>



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