**School Education & Literacy Department,
Government of Sindh**

Situational Analysis of the Education Sector in Sindh

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MESSAGE FROM MINISTER FOR EDUCATION & LITERACY DEPARTMENT

It gives me immense pleasure to share the Situational Analysis of the Education Sector in Sindh compiled by a team led by UNESCO-IIEP as part of the contract with World Bank "Developing the Education Sector Plan in Sindh, Pakistan". The Education Sector Analysis (ESA) in Sindh has been an effort with the purpose of laying the foundation for development of School Education Sector Plan & Roadmap for Sindh (2019-2024), aimed at improving the overall situation of education sector in the province, with particular emphasis on the aspects of ACCESS, QUALITY and GOVERNANCE in education sector.

The Education Sector Analysis (ESA) is in an objective analysis of Sindh Education Sector Plan (2014-2018), which is reflection of the commitment of this government towards translating the spirit of the Article 25-A of the Constitution of Islamic Republic of Pakistan, 1973, into a workable plan of action by the Government of Sindh, regarding free and compulsory education to all children. Similarly, this plan is also a big step forward towards our commitment to the international community regarding the achievement of the Sustainable Development Goals (SDGs), particularly the SDG-4.

I would like to particularly appreciate the support of the UNESCO-IIEP, UNICEF, World Bank and Global Partnership for Education (GPE) and Reform Support Unit (RSU) team, which led this Education Sector Analysis (ESA) to come into existence. Since the School Education Sector Plan (2014-2018) has been the basis for the Education Sector Analysis (ESA), therefore, the instant document has highlighted loopholes and unmet targets, which will be prioritized with renewed ambition and vigour in the subsequent Sindh Education Sector Plan & Reform (2019-2024). I am sure this Education Sector Analysis will provide foundation for setting realistic goals for the next sector plan, and it will serve as a platform to attain synergy created by all the related wings and organizations of School Education Department and the active cooperation from the development partners, national and international organizations and the civil society organizations related to this sector, which will ultimately help in achieving the desired outcomes in the next Sindh Education Sector Plan and Roadmap (2019-2024).

I truly commend the hard work of Reform Support Unit team in leading and coordinating the entire process of formulation of education Sector Analysis (ESA) for School Education Sector Plan (2019-24).

Saeed Ghani
Minister for Education & Literacy, Sindh.

FOREWORD

The devolution of power of education sector to provincial government after 18th amendment in the constitution of Islamic Republic of Pakistan, acquiesced the School Education & Literacy Department (SELD), to attain full jurisdiction of the education in Sindh. With this pretext, during the first Sindh Education Sector Plan 2014-2018 period mainly the provincial policies were formulated as the guiding documents and watchword for the attributed service delivery in the province.

The strive towards quality education is an enduring journey and not a destination in itself. Therefore, Sindh Education Sector Plan (SESP 2014-2018) was developed keeping in view the deteriorating literacy standards in province and bludgeoning population of youth for whom access to quality education has remained a pipedream. In the Sector Plan, ambitious targets were set for increasing enrolment of students in schools. Though Sindh achieved an increased enrollment at pre-primary level, despite the limited early childhood care and education (ECCE) options provided. However, the access related indicators for primary education could not be met by the end of the period as many actions under the access related policy pillars were not initiated.

The Education Sector Analysis (ESA) focuses on the loopholes in various domains especially access and participation of students in schools. Moreover, the number of Out-of-School Children has seen steady increase over time. The factors which have exacerbated the number of out-of-school children in Sindh include inability to access schools, and socio-economic disparities between rural and urban areas. In addition to the above, the level of educational achievement in Sindh is overall low with persisting concerns about the quality of education. The ESA establishes that the students learning outcomes, tested through various assessments across grades, are poor due to various reasons.

The Education Sector Analysis (ESA) also highlights that inadequate school preparedness for children in Sindh is a fundamental issue. Moreover, Curriculum also shows gap between the context of learning and expectations. The Curriculum Implementation Framework (CIF) has not been operationalized to a full extent, and there is no feedback on the curriculum's effectiveness and relevance. Furthermore, a field research reveals prevalence of a teacher-centered approach to teaching and learning, where the student is typically a 'passive' actor in classroom.

In addition to the above, the Education Sector Analysis identifies the challenges faced by the School Education & Literacy Department on Governance and Management domains which include effective operationalization of comprehensive legal framework for delivery of quality education to all children; the need to redress the imbalance between the high-level office for the Secretary of Education and the technical arms, including the Directorates of Education and the need of more strategic approach to planning, including M&E, is needed that looks at the entire value chain of education from curriculum to student learning outcomes.

The Education Sector Analysis (ESA) also underlines the issues in education finance in Sindh. Public Financing of education in Sindh has increased over time. However, spending rates have not improved significantly. The ESA brings out the case for the development and non-salary budget. The SESP (2014-

2018) has identified low utilization rates of the education budget as one of the major challenge for the sector. Moreover, various types of inefficiencies are observed in the allocation of resources. The ESA assessed the relationship between budget allocation with respect to the density of schools and of students at the geographical district level.

In addition to the above, the gender imbalances pertaining to access to education are prevalent in the province and particularly in rural areas. Moreover, children in rural areas register lower indicators of access than their peers in urban centers. There are significant disparities in enrollment rates between in urban and rural areas in the province, suggesting major systemic inefficiency. Besides the above, students' dropout is pervasive as they progress from primary to middle to secondary levels of education. Consequently, the situational analysis of the School Education sector in Sindh (ESA) has been carried out to identify the gaps in all aspects of delivery: access, quality and equity in education sector of the province.

The Sindh Education Sector Plan (2014-2018) set ambitious plan for transforming the education sector in Sindh by ensuring access and focusing on quality and governance. However, the Education Sector Analysis has laid bare the challenges and hurdles in the path of achieving universal enrollment and equitable access to children of rural as well as urban areas. The implementation of Sindh Education Sector Plan in true letter and spirit requires coordination and collaboration of all stakeholders of School Education & Literacy department. The effective service delivery in this domain will not only lift aspirations and raise educational achievement but also regain and revive the trust of masses on the public education system.

School Education & Literacy Department has come a long way in revamping the edifice of education in collaboration with the development partners and civil society. A Directorate of Monitoring & Evaluation (M&E) Unit with an elaborate district hierarchy with required resources was established under SESP (2014-2018). Moreover, a major improvement has been made in the pre-service training system in Sindh despite the persisting challenges. Moreover, some public financial management (PFM) reforms for the education sector have been carried out, but further improvements are needed.

As the Secretary of School Education & Literacy Department, Government of Sindh, I must acknowledge the Chief Program Manager-Reform Support Unit for his leadership and devoted attention in devising Education Sector Analysis (2019-2024) and efforts undertaken by his team m in a very short span of time to guide all the relevant stakeholders in accomplishing this strategic task. This document effectively contributed towards development of a realistic SESP&R (2019-2024) with detail targets and activities.

Ahmed Bakhsh Narejo,
Secretary,
School Education & Literacy Department,
Govt. of Sindh

Sami Khan who further developed analysis for and drafted different chapters and revised overall document.

This work would not have been possible without consultation, support and ownership of all the Directors and Heads of Allied Institutions of School Education and Literacy Department who shared their experience and insights throughout the course of preparation of this education Sector Analysis. I would like to offer my profound appreciation to all of them.

We have a strong belief that this Educational Sector Analysis (ESA) will provide a basis for setting of realistic targets and roadmap for the School Education Sector Plan and Roadmap for Sindh and pave the way for accomplishing these targets through vigor, dedication and commitment. May this Situational Analysis Document help all in preparing evidence based policies.

Muhammad Hanif Channa,
Chief Program Manager-Reform Support Unit
School Education and Literacy Department,
Government of Sindh

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List of Acronyms

A&F	Administration and Finance
ADB	Asian Development Bank
ADE	Associate Degree in Education
AEPAM	Academy of Education Planning and Management
AKESP	Aga Khan Education Services Pakistan
AKU-EB	Aga Khan University – Examination Board
AKU-IED	Aga Khan University – Institute for Educational Development
ASER	Annual Status of Education Report
BIEK	Board of Intermediate Education Karachi
BISE	Board of Intermediate and Secondary Education
BoC	Bureau of Curriculum
BCEWS	Bureau of Curriculum and Extension Wing Sindh
CIF	Curriculum Implementation Framework
CPD	Continuous Professional Development
DCAR	Directorate of Curriculum, Assessment and Research (previously Bureau of Curriculum)
DFATD	Department of Foreign Affairs, Trade and Development
ECE	Early Childhood Education
FMC	Financial Management Cell
GDP	Gross Domestic Product
GECE	Government Elementary College of Education
GoP	Government of Pakistan
GoS	Government of Sindh
GPE	Global Partnership for Education
HEC	Higher Education Commission
HSSC	Higher Secondary School Certificate
ICT	Information and Communication Technology
ITA	Idara-E-Taleem-O-Aagahi
JICA	Japan International Cooperation Agency

MSP	Middle School Programme
MTBF	Medium Term Budgetary Framework
MTFF	Medium Term Fiscal Framework
NAT	National Achievement Test
NEMIS	National Education Management Information System
NER	Net Enrolment Rate
NFC	National Finance Commission
NGOs	Non-Governmental Organizations
NPSTP	National Professional Standards for Teachers in Pakistan
NTS	National Testing Service
OOSC	Out of School Children
ORG	Operational Reform Group
PEACE	Provincial Education Assessment Centre
PEFA	Public Expenditure and Financial Accountability
PFM	Public Financial Management
PIFRA	Project for the Improvement of Financial Reporting & Auditing
PITE	Provincial Institute for Teacher Education
RSU	Reform Support Unit
SAFED	South Asian Forum for Education Development
SAHE	The Society for the Advancement of Education
SAP	System, Applications & Products
SAT	Standardized Achievement Test
SEF	Sindh Education Foundation
SELD	School Education and Literacy Department
SEMIS	Sindh Education Management Information System
SERP	Sindh Medium Term Education Sector Reform Program
SESLOAF	Sindh Education Students' Learning Outcomes Assessment Framework
SESP	Sindh Education Sector Plan
SMC	School Management Committee
SOPs	Standard Operating Procedures
SSC	Secondary School Certificate

ST	Student Teacher
STEDA	Sindh Teacher Education Department Authority
STBB	Sindh Textbook Board
TE	Teacher Education
TED	Teacher Education and Development
TNA	Teachers' Need Assessment
TRP	Teacher Recruitment Policy
TTI	Teacher Training Institutes
TTP	Teacher Training Project
TTs	Teacher Trainers
TWGs	Technical working groups
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development

Executive summary

A situational analysis of the school education sector in Sindh (ESA) has been undertaken to form the basis for the development of an Education Sector Plan for 2019 to 2023. The present ESA has been informed by the methodology for sector analysis in the guidelines by UNESCO-IIEP, UNICEF, World Bank and Global Partnership for Education (GPE). The process has been anchored in the Reform Support Unit (RSU) of the School Education and Literacy Department (SELD). All organizations of the Department were consulted. Additionally, focus group discussions were held with district and taluka officials, teachers, parents and students in the districts of Sindh. The process of development of ESA took over four months, with a number of consultations, review of secondary sources and specific researches commissioned for the sector analysis, including original field research on classroom practices.

The results presented in the ESA raise concerns as education in Sindh continues to be in need of serious attention. There are major gaps in all aspects of delivery: access, quality and equity.

1. Context of the Development of the Education Sector in Sindh

The population of Sindh is young and fast growing. Sindh is the second largest province in Pakistan, with a population of more than 47 million inhabitants. With an average annual population growth rate of 2.41 between the last two censuses (1998 – 2017). About 52% of the total population live in urban areas. Sindh's fast population growth is also due to high levels of inter-provincial and intra-province migration. While the country as a whole is expecting demographic dividend, where economy growth exceeds population growth, Sindh's fast population growth continues to pose a challenge on human capital development.

Populations in Sindh are affected by multiple forms of poverty, and considerable disparities exist between districts. Sindh has a Human Development Index (HDI) of 0.640 that is above the national level. The proportion of the population experiencing multidimensional poverty[1] decreased from 2004 and 2014. However, there are considerable disparities between districts. While most districts correspond to a low-medium level of development, some districts in the province experience extreme deprivation. Still 43.1% of the population in Sindh suffers from multiple forms of poverty, or about 21 million people.[2] Multidimensional poverty affects three in four people living in rural areas, compared to one in ten living in urban areas. In Tharparkar, Umerkot, and Sujawal districts, for example, more than 80% of the population is affected by multidimensional poverty.

Despite an improvement over time, literacy rates in the province are low, particularly for women. Literacy rates in Sindh have increased over time, but they remain slightly below the average for Pakistan (55% in Sindh, 58% in Pakistan), largely due to enduring low literacy rates in rural areas. The rates for women are particularly low: 44% overall, and just 19% in rural areas.

Child health indicators are very poor especially in rural areas. Infant and under-five mortality rates in Sindh, at 82 and 104 per 1,000 live births, respectively, are above the national average in Pakistan.[3] Significant differences exist between urban and rural areas: infant and under-five mortality rates in

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[1] That takes into account income, but also indicators related to health, education, and living standards.
[2] UNDP. 'Multidimensional Poverty in Pakistan.' http://www.ophi.org.uk/wp-content/uploads/Multidimensional-Poverty-in-Pakistan.pdf
[3] According to the 2017-18 Demographic and Health Survey 2017-18, infant mortality is 62 per 1,000 live births and under-five mortality rates at 74 per 1,000 live births in Pakistan.

rural areas are almost double the rates in urban areas in Sindh. More than one in ten children under the age of five are moderately underweight, and 4.4% are severely so. Almost half of the children under five years old are moderately stunted, and an additional 29% are severely stunted, indicating chronic malnutrition. Over 40% of children under five are too thin for their height, or wasted, reflecting nutritional deficits. Rural children suffer most: 40% are severely stunted, and 25% are severely wasted.

2. Access and Participation

Access to early childhood education improved in Sindh, but the access to primary education remains as a major challenge. The Sindh Education Sector Plan (SESP) 2014-2018 set ambitious targets for enrolment increase. Sindh achieved an increased enrolment at pre-primary level, despite the limited early childhood care and education (ECCE) options provided. Pre-primary enrolment in public schools increased by 24% between 2012 and 2016, and almost 33% since 2013. However, access related indicators for primary education were not by the end of the period as many actions under the access-related policy pillars were not initiated. Gross enrolment rate (GER) in Sindh, captured by the PSLM survey in 2014-15 was 79%, lower than the rates in both Khyber Paktunkhwa and Punjab provinces. Similarly, the net enrolment rates (NER) in Sindh are consistently below the national average. At primary level, the NER is just 61%, compared with a national average of 67%. Nonetheless, the NER may underestimate actual participation, as overage enrolment is common, which, in turn, also heightens the risk of dropout.

Gender imbalances in access to education are prevalent in the province and particularly in rural areas. With the exception of urban female at middle school level, female students have lower enrolment rates than their male peers at all levels of education. The NERs for girls in rural areas are particularly striking: 14% at middle school level, and just 6% at secondary level. Age-specific attendance rates also suggest that lower participation for females is a serious issue. School attendance rates are lower for girls than for boys throughout the basic education system, except at the pre-primary level (26.6%, compared to 17.8%). The gender gap is insignificant when boys and girls enter pre-primary and primary school, but becomes visible at the age of seven, and turns into an acute situation when girls enter lower secondary school. Girls are more likely than boys to discontinue studies when they switch from primary to lower secondary schools. However, this gap narrows after the age of 15.

Children in rural areas register lower indicators of access than their peers in urban centres. There are significant disparities in enrolment rates between in urban and rural areas in the province, suggesting major systemic inefficiency. The GER for rural males at primary level is 80%, while for females it is just 51%. For both males and females in urban settings, the GERs are above 95%. Rural populations, both male and female, also have lower NERs than their urban peers at every level. In all cases, the figures for rural populations are also well below the national average.

Students' dropout is prevalent as they progress from primary, to middle, to secondary levels of education. Leaving schools before completing the full educational programme continues to be a serious problem in Sindh. At the middle level, the NER in Sindh is just 34%, nearly half of its value at primary level, before falling to just 25% at secondary level. Maximum dropouts occur at primary level: almost 50% of children abandon school by Grade 5. Another 27% of the remaining children leave the system at the transition from primary to middle school. Children who continue tend to remain in the system: dropouts at middle and secondary levels are 4% and 8%, respectively.

Factors contributing to dropout include low economic status of parents, involvement in household chores, perceived low returns of education (especially for girls), and engagement in economic

activities.[4] Student absenteeism is extremely high: between 40% and 60% of the students enrolled in school are absent from school on any given month, according to reporting by the Directorate General of Monitoring and Evaluation. A high number of children within schools continue to be at a high risk of dropping out.

Additional key issues and causes of low access and retention include:
- *Multi-grade teaching situations*: almost 89% of primary schools have two classrooms or less and more than 65% have two teachers or less.
- *Low school availability beyond primary*: only 13% of schools in Sindh are middle and 12% are secondary. With 1% schools being higher secondary the bulk of schools (74%) are primary.
- *Missing facilities*: nearly 50% of schools are lacking all or most basic facilities such as boundary walls, electricity, washrooms, or drinking water.
- *Corporal punishment*, despite the passing of the 2016 Sindh Prohibition of Corporal Punishment Act.
- *Weak non-formal education (NFE)*: despite the development of a Non-Formal Education policy, primary level curricula and standards, implementation on the ground remains limited, and the Directorate of Literacy and Non-formal Education is under-resourced to tackle the vast challenge of OOSC. Moreover, a clear understanding of where and why children are out of school is key to develop localized strategies.
- *Limited provision of special education*: Despite the development a policy for special education, concepts of inclusive education are not regularly practiced in schools, and materials have not been adapted for inclusive education.

3. Out-of-School Children

Sindh has a large out-of-school population, which seems to have increased over time. Girls represent the largest share of OOSC. Various estimates on the number of OOSC have been made, but exact figures are difficult to be determined. Pakistan Social and Living Measurement Survey (PSLM) data were used to develop the profile of OOSC in this ESA.

Table 1. Estimated number of OOSC in Sindh (in millions)

	1. PSLM 2013-14	**2. Alif Ailaan 2018[*]**	**3. PES 2016-17**
Primary	2.6	1.87	1.65
Middle	1.13		1.94
Secondary	0.97	4.8	1.35
Higher-secondary	2.05		1.47
Total	6.75	6.67	6.41

*Note: Alif Ailaan report does not provide a break up of middle, secondary, and higher-secondary.
Source: Pakistan Social and Living Measurement Survey-HIES 2013-14; Alif Ailaan - Sindh: Wins, Losses and Challenges for 2018-23[5]; Pakistan Education Statistics 2016-17.

Trends show the number of primary-age OOSC in Sindh seems to have increased from 1.87 million (39.9%) in 2007-08, to 2.57 million (42.1%) in 2013-14 although accurate population census and projections are not yet available. Girls are more likely to never enter primary school (63%) than boys

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[4] Khan, A. G., Azhar, M. & Shah, A. S. (July 2011). Causes of primary school dropout among rural girls in Pakistan Working Paper Series # 119, Sustainable Development Policy Institute (SDPI).

[5] Alif Ailaan 2018. 2013-2018 Five Years of Education Reforms. Wins, Losses and challenges for 2018-2023. Islamabad: Alif Ailaan. vi-42 pp.

(54%). The constant increase of OOSC might reflect a persistent lack of capacity of the school system to absorb population growth.

Access remains a major issue. In total, 54% of OOSC are expected to never enter primary school. In addition, those that will eventually go to school tend to be over-age, which increases the risk of dropping out over time. The lack of ECCE in the province may pose a barrier to primary school retention and attendance in later years. The analysis suggests that there is potential demand for ECCE, as households may send their children to their next possible option (i.e. primary schools) if ECCE is not available.

Most middle school-age OOSC are never expected to enter middle school. Historical trends show that the number and proportion of middle school-age children who are out of school increased from 0.77 million or 36.9% in 2007-08, to 1.13 million or 39.2% in 2013-14. The percentage of OOSC was much higher for girls (48.9%) than for boys (29.5%) – a difference of 19.4 percentage points. Data on school exposure suggest that 77% of middle school-age OOSC are expected to never enter middle school, with more girls (80%) being expected to never enter than boys (72%). According to these figures, 39% of all girls of middle school-age – more than one in three – are expected to never enter school.

Educational attainment of youth in Sindh suggests that the system may be suffering from bottlenecks that need to be addressed. Of the 66% of children who entered primary, only 38% had completed middle school education. These rates are much lower than the national average. This suggests that a substantial proportion of children in Sindh fail to enter primary education, and of those who do enter primary education, only a small proportion successfully transition to upper-secondary level.

Socio-economic disparities, and disparities between urban and rural areas, also persist across groups of OOSC in Sindh.
- *Poverty is a significant barrier to education for OOSC*. Some 50.1% children from poorest households are out of school, compared with 11.2% from wealthiest households. At primary level, children from the poorest wealth quintile are 60% more likely to never enter school, relative to just 19% of the richest children; most children (79%) from richest quintile are expected to enter school at some point in the future.
- *Significant disparities exist between urban and rural areas*. The proportion of primary school-age children not attending school from rural areas (52.9%) is almost double that of children from urban areas (27.8%).

4. Quality of Education

The level of educational achievement in Sindh is overall low with persisting concerns about the quality of education. Student learning outcomes, tested through various assessments across grades, are poor. Teaching in the classroom mostly uses the rote memory approach, reducing the opportunity for higher order thinking to develop among children.

Children who manage to complete some years in school cannot read at the appropriate level. For example, in 2016, only 25.3% of children in Grade 3 could read a sentence in Urdu, and 22.6% could perform subtraction. In Grade 5, 36.6% of children were able to read a story in Urdu, and 24.3% could perform division. English language skills were slightly lower for both grades.

Another key performance indicator for learning outcomes is based on the results of the SAT assessment. Targets were set in SESP 2014-2018 for SAT scores. The 2016-17 scores indicate that Sindh is behind reaching its target in language (45%) and science (32%) for 2018, but met the target set for Math (25%). Overall, performance in the various subjects has been low, despite some progress toward

the identified targets. At Grade 8 level, the SAT scores were slightly higher in 2016-17, reaching 39.85% in language, 20.93% in math, and 25.89 in science.

Inadequate school preparedness for children in Sindh is a fundamental issue. Child health is a serious concern since almost half of the children under the age of five are stunted. Quality ECCE to prepare children for primary school is extremely limited. Pre-literacy and pre-numeracy skills, among others, are developed at this stage. Unfortunately, there are few quality early childhood education options for children in Sindh. Planned improvements outlined in SESP 2014-2018, such as building additional centres and hiring ECCE teachers, have not been realized. ECCE continues to be poorly supported and understood.

Curriculum appears to show a gap between the context of learning and its expectations.[6] Criticism has been particularly targeted at the English language curriculum, which was reviewed in 2016. It was designed, from the primary level, for children with high levels of listening and speaking proficiency in English. The reality of the child's language abilities and environments were not tested against the various student learning outcomes (SLOs) and benchmarks. While Annual Status of Education Report (ASER) data suggest that a majority of children fail to read a story with comprehension by end of Grade 5, reading and writing in English are introduced as early as Grade 1.

The curriculum implementation framework (CIF) has not been operationalized to a full extent, and there is no feedback on the curriculum's effectiveness and relevance. The CIF calls for curriculum to be used in the development of textbooks and learning material, teaching and teacher training, and assessments. In practice, it is being used for textbook development only.

A field research conducted for this ESA reveals prevalence of a teacher-centred approach to teaching and learning, where the student is typically a 'passive' actor in the classroom. The study included classroom observations and looked at various aspects of teaching and learning.[7] Some of the key findings:
- Teaching in most classes is 'teacher centred' and not student centred. Students were found to be 'passive' participants of the experience.
- Teachers were engaged in covering content and needs of the learners were ignored.
- There were very few cases of activity based learning and even in those actions were 'procedural' at best.
- Teachers did not spend time on higher order questioning and classroom observations scored low on this aspect.

A previous study also suggested weak teacher competency. According to the study, many of the teachers lack knowledge of basics of teaching: comprehension of curriculum, taxonomies, and assessments. Only 37% teachers in Sindh had any knowledge about the national curriculum, only 4% were familiar with Bloom's taxonomy (on which the national curriculum is based), and only about 18% had ever received any training in assessments. [8]

A major improvement has been made in the pre-service training system in Sindh despite the persisting challenges. Pre-service teacher education has undergone major transformations in recent years: new programs like the Associate Degree in Education and the four-year Bachelor of Education (B.Ed.) have replaced the Primary Teacher Certification (PTC) and Certificate of Teaching (CT), as well as the one-year B.Ed. However, quality remains low, as pre-service institutions have failed to upgrade their capacity to meet the requirements of these new courses. According to Sindh Education

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[6] Effectiveness and relevance of curriculum to the learning context of the child were not researched, limiting analysis of the curriculum.

[7] Idara e Taleem o Agahi "Researching Teaching and Learning Practices in the Classroom" September 2018

[8] SAHE and Alif Ailaan. 2014. The voice of teachers: learning from teachers across Pakistan. Islamabad: Alif Ailaan. xii-122 pp.

Management Information System (SEMIS) data[9], 38% of teachers in SELD still had PTC and CT qualifications in 2016-17. Continuous professional development (CPD) scheme has been developed and in the pipeline for implementation.

Studies indicate that textbooks do not always fully cover the requirements of the curriculum, and are not learner friendly. Textbooks steer the teaching and learning process. The existing textbooks of Sindh Textbook Board do not function as good learning material for teachers to transfer literacy skills to students in early grades. Further, textbooks are not field tested, and there is no mechanism of feedback from teachers and students. Textbook reviewers are normally subject specialists and do not necessarily have an understanding of the needs of higher-order thinking and horizontal–vertical alignment.

Formative and summative assessments are a regular feature in schools, but there is no evidence on their quality or use in improvement of the teaching learning process. There is no record or follow up on the regularity of formative assessments, and more than 80% teachers in Sindh acknowledged that they had never received assessment-related training.[10] High-stakes examinations conducted by the boards of intermediate and secondary education induce rote learning. Higher-order thinking is missing. There are also allegations of widespread cheating in these examinations.

An absence of a comprehensive set of standards against which performance can be benchmarked is an issue. At present, there is no systematic approach to benchmark, assess, and integrate the various processes for enhancement of education quality in Sindh. In 2016, national standards were prepared at the federal level. Recently, the Directorate of Curriculum Assessment and Research (DCAR) called for the creation of a committee to review and develop education standards in Sindh, using the national standards document. The standards will be adapted to provincial needs, and more detail – including inputs and processes – will be added. Research remains a vital missing area in the province.

5. Governance and Management

A comprehensive legal framework[11] for delivery of quality education to all children is in place in Sindh. Effective operationalization is the main challenge. While the existing legal framework guarantees education that is free and compulsory for children aged 5 to 16 years old, including textbooks, stationery, schoolbags, and uniforms, certain important implementation arrangements have yet to be operationalized.

Important measures have been taken to reduce political interference in education, such as merit-based teacher recruitment and monitoring of teachers' presence in schools. Considerable improvements, such as increased political will to improve education and merit-based teacher recruitment. However, political interference in postings and transfers of teachers continues. Reform efforts will have to address and respond to such challenges. Moreover, routine administrative matters leave little time for district officers to focus on school improvements.

There is a clear need to redress the imbalance between the high-level office of the Secretary of Education and the technical arms, including the Directorates of Education. The Secretary of Education is generally selected from the federal-level Pakistan Administrative Service (PAS). The Secretary oversees policy, coordination, and high-level management, while the Directorates of Education and other technical arms are responsible for the technical management of planning,

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[9] SEMIS 2013-17.

[10] "Voice of Teachers" Alif Ailaan, 2014.

[11] Key legal instruments which define the normative framework of education in Sindh are: (i) Article 25A of the Constitution of the Islamic Republic of Pakistan, (ii) the Sindh Right of Children to Free and Compulsory Education Act 2013, (iii) the Sindh Curriculum and Standards Act 2013; (iv) the Early Childhood Care and Education Policy, Sindh 2015; (v) the Sindh Non-Formal Education Policy 2017.

monitoring, and the teaching-learning approaches and outcomes. In recent years, however, the role of the Secretary of Education has expanded into technical areas, for reasons including: the politicization of district-level management (e.g. inability to control teacher absenteeism); enhanced scale due to growing numbers of schools, teachers, and students; and the tendency for donors to engage with the provincial level because of higher capacity and the decision-making power at this level. Technical units in the education department like the Directorates of Education need to take up the initiative in solving education delivery problems instead of waiting for these decisions to come from the office of the Secretary of Education. However, technical units need to be strengthened in terms of their capacities and specialized human resources to become effective.

The technical capacity of organizations responsible for development of quality products like curriculum, textbooks, assessments and teacher training will need to be built. Products like curriculum, textbooks, assessments and teacher training require specialized knowledge and continuous professional development. There is a shortage of qualified human resource in all quality-related organizations of the education sector in Sindh. While there are efforts on to improve quality of teachers, the need to develop the capacities of other professionals at central and regional level also remains acute. In addition to a shortage of quality human resources in these organisations, there have been no structured programmes for professional development. In this vacuum, development partners have become the main conduit for bringing in new concepts into the sector, raising an issue of ownership and sustainability of reform efforts.

A more strategic approach to planning, including M&E, is needed that looks at the entire value chain of education from curriculum to student learning outcomes. There is no unit within SELD that has the mandate of strategic planning, which would encompass not only the usual planning of infrastructure, teachers and learning materials, but also management of information systems, M&E, and policy analysis. These different functions lie in disparate units, which makes it ever more difficult to have a coherent approach to strategic educational planning. Instead of being strategic and aimed at reaching a common goal for the education sector, planning is incremental and often ad-hoc. The prioritization from the Sector Plan is not the main consideration.

Established in 2016, the Directorate General of Monitoring and Evaluation (DG M&E) has made considerable progress against teacher absenteeism, pushing a number of absentee teachers to seek early retirement. As an organization reporting directly to the Secretary, the DG M&E enjoys an appropriate amount of independence. While the importance of DG M&E's work cannot be overstated, a systemic and robust M&E for SELD requires the function to expand its scope to encompass not only monitoring inputs, but also the monitoring and assessment of outputs and outcomes.

The education management information system needs to be updated to adapt to the needs of planning and M&E. Information is critical to strategic planning and decision-making. The main source of data is SEMIS. SEMIS depends on a physically conducted annual school census, which has been outsourced to a private firm for the last two years. While the SEMIS serves as a valuable resource, improvements are needed to make it a more effective tool for planning. Current gaps include:
- *Limited scope*: SEMIS collects data from public schools only; data on private sector schools are not regularly collected, and data on quality are not collected at all.
- *Functioning as a standalone database*: Many key individuals in the education administration do not have active access to its data, reducing its effectiveness.
- *Lack of integration of databases*: Data from different areas have not been integrated into a single database (e.g. DG M&E, Directorate of Private Schools, Girls' stipends).
- *Time lag*: Data are collected through a paper-based questionnaire. It takes almost a year before data become available for use.

Private school presence is large and public-private partnership provides important opportunities. Although government schools continue to be the main form of schooling at primary level, private schooling is widespread. In Sindh as a whole, 33% of boys and 40% of girls are enrolled in primary schools that are not managed by the public sector (excluding Katchi classes). This rate is even higher in urban areas.

Private school presence in such large numbers invoke two policy options: i) regulation of private schools; ii) using interest and capacity of the private sector to expand education outreach. While schools are required to register with the SELD, in practice, schools operate without registration. Further, ideally, the state should also manage quality in all schools, including minimum standards in private schools, and should be aware of the content being taught in the schools.

While an enabling (public-private partnerships) PPP law[12] exists, and PPP projects have been initiated, capacity to manage PPPs is weak at both the provincial and district levels. An important model of public private partnerships is managed by the Sindh Education Foundation (SEF). SEF models include direct support to children for admission to private schools as well as provision of money per child to schools.

PPPs provide a major opportunity for the expansion of schooling, but the approach incudes some risks: the low capacity of the PPP Node in SELD, costs associated with the Education Management Organizations (EMO) model, and disconnect between PPPs and the Education Department.

The capacity of the head teachers and district officials to engage community in schools requires improvement. Despite the development and approval of school management committee (SMC) rules, composition, and functions, challenges remain. Grant amounts are low and documentation requirements for expenditures are seen to be unrealistic. The capacities of head teachers and district officials to engage communities also needs improvement.

The financial outlays have increased over the years, but the system needs to review the value for money spent as an ongoing indicator of its performance. The education budget in Sindh has increased steadily since 2011, reaching Rs 191 billion in 2017-18. In 2017, the education current budget represented about 20% of the total government budget, and the share of the development budget for education over the total development budget was 5.5%. Nonetheless, education outcomes do not appear to have improved significantly. The utilisation rate of development expenditures has been very low, just 30.5% in 2017. Unless the system has the ability to implement, planning will not deliver the desired results. Questions should be raised on the allocation and potential optimization of resources between the current and development budgets. Political will, better planning, careful monitoring and accountability can help improve the results of these expenditures.

6. Education Finance in Sindh

Public financing of education in Sindh has increased since 2011. The education budget in the province has increased since 2011, reaching Rs 191 billion in 2017-18. In terms of the total budget of the government of Sindh, the share of public resources allocated to education grew from 13.4% in 2011, to 18.5% in 2017.

The share of the education current budget over the government's total current budget fluctuated since 2011; in 2017, it was around 20%. The share of the development budget for education over the

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[12] Sindh passed the Public Private Partnership Act in 2010. An amendment was later introduced to include the social sector.

total development budget was slightly less consistent: it has represented up to 8% of the total development budget, but fell to 5.5% in 2017.

However, spending rates have not improved significantly. This is particularly the case for the development and non-salary budgets. The SESP 2014-2018 identified low utilisation rates of the education budget as one of the major challenges for the sector, although this is a pervasive problem throughout the public sector in the province. The utilisation rates of the current budget show a declining trend, dropping to about 76% in 2017, though the rates were relatively high (see *Figure 4*). The development spending, however, has remained very low, averaging close to 50%. Cumbersome procedures and capacity issues might be some of the reasons behind the low utilisation rates.

At the consolidated level, roughly two-thirds of the education budget corresponds to salaries. The weight of salaries on the budget, however, decreased since 2013, when it represented 71.5% of the total education budget. The development budget generally corresponds to about one-tenth of the total budget. In 2017-18, salaries represented 66.3% of the education budget, while non-salary items represented 22.9%, and development accounted for 10.7%.

Various types of inefficiencies are observed in the allocation of resources. Expenditures tend to favour urban, relatively wealthier districts. Further, there is no apparent relationship between expenditures and learning outcomes at district level. The ESA assessed the relationship between budget allocation with respect to the density of schools and of students at the geographical district level, finding that some districts, including Sajawwal, Tando Mohammad Khan, Mithi, and Badin, received less given the density of schools and students. Conversely, Hyderabad received proportionately more resources.

Further, a recent Public Expenditure Review, which used data from fiscal year 2015, found that per-pupil spending tends to favour a few urban and wealthier districts.[13] The expenditure was skewed towards the districts of Karachi and Hyderabad, where student-teacher ratios are low. Conversely, Ghotki, a more disadvantaged district, registered the lowest per-pupil expenditures and also the highest student-teacher ratio. The report also related total expenditures in education by district with SAT test scores of students in Grades 5 and 8, finding very little, if any, impact of expenditures on learning outcomes at district level.

Future strategic plans need to address the low capacity of budget absorption in order to be more effective in reaching the stated policy objectives. The next SESP may tie the spending more closely to different heads, perform a stronger tracking, and seek course corrections during the implementation of the plan. The introduction of quarterly budget execution reports for the education sector, for example, could help resolve this issue.

A greater focus on institutional capacity could also help increase efficient spending in the education sector. Few resources have been spent on building individual and institutional capacity. The next ESP should follow up closely on this area to achieve better functioning institutions and more capable human resources.

Some public financial management (PFM) reforms for the education sector have been carried out, but further improvements are needed. There is a need for better financial management capacity in SELD. A Financial Management Cell may be established to look at areas of reform on internal audit, production of Budget Execution Reports, and general improvements in PFM for education service delivery

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[13] World Bank. 2017. Pakistan Sindh: public expenditure review. Washington, D.C.: World Bank Group.

7. External Efficiency

Over half of the employed in Sindh have no qualifications, a reflection of the overall low levels of education in the province. A significant proportion of workers in Sindh are also underemployed.[14] The labour force in Sindh is largely constituted of employees, and, as in the rest of Pakistan, informal sector employment (i.e. service, sales, and crafts sectors) is high, at more than 65%. A large proportion of the employed individuals do not have qualifications; this is particularly the case for women.

A fair amount of degree/post-graduate students are underemployed (23.19% in 2014-15), suggesting that these populations frequently had qualifications higher than those required by their jobs. Similarly, while the majority of the unemployed population has pre-matric level education or are illiterate, the proportion of unemployed individuals with degree-level qualifications are also quite high (18.74%)[15], highlighting the disconnect between the skills acquired through a degree and the skills required by the economy.

Female labour force participation is low, largely due to socio-cultural barriers related to women's education and employment. Sindh's female labour force participation is the lowest among all provinces. Many factors contribute to low female labour force participation, including skills and low participation in education and training, social norms, lack of gender-responsive infrastructure, and occupational segregation.[16] In many cases, the decision for women to participate in income generating activities may be taken by the men in the household.[17] In 2014-15, Sindh's labour force participation rate for males over 10 years of age was nearly 70%, while for females, it was just 13.5%.[18] Women also had a higher unemployment rate (10.92%, compared with 3.57%), suggesting that women may have a harder time securing employment, despite entering the workforce in lower numbers. In terms of remuneration, females earn 23% less income than males for similar jobs in Pakistan.[19]

Increased attention to employability of youth entering the labour market is particularly important given the demographic pressures facing Sindh, and Pakistan as a whole. Analysing youth employment has become an integral concern in the context of 'youth bulge'. Overall, Pakistan's population is largely comprised of mostly unskilled working-age youth who are unprepared for high quality productive jobs. The difficulties in school-to-work transitions and labour market challenges can be, in part, explained by inadequate job preparedness because of the poor quality and lack of labour market relevance of education. The labour force tends to lack the relevant skills, including cognitive, technical, and socioemotional skills important for any job, such as numeracy and literacy, organization, and social interaction and communication skills.[20]

The social impact of education is high, significantly affecting elements such as health, reproductive behaviour, high-risk behaviour, and civic attitudes.[21]
- *Education and health conditions of children:* Data show that as the mother's education increases from primary to higher, infant mortality, and under-five mortality rates decrease. For example, immunization rates in Sindh for BCG, which prevents tuberculosis, increase as the mother's education level increases from primary (82.9%) to higher (90.8%).

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[14] 'Underemployed' is defined as working fewer than 35 hours per week and being available/seeking additional work. It also includes individuals who hold positions under the level of training they hold.

[15] Labour Force Survey, Pakistan Bureau of Statistics, 2014-2015.

[16] Exploring Employment Opportunities for Women in Sindh, A Research Study, Sindh Skill Development Project 2018

[17] Ibid.

[18] Labour Force Survey, Pakistan Bureau of Statistics, 2014-15.

[19] Zeenat Hisam, *Gender wage gap*, Dawn, May 26, 2016 https://www.dawn.com/news/1260629.

[20] DFID Market Review, 2014

[21] Data on the social impact of education are from MICS, Sindh Bureau of Statistics, 2014.

- *Education and fertility:* The role of education in the process of controlling demographic growth is widely recognized. In Sindh, the total fertility rate for women who have not attended school above pre-primary level was 5.0. At primary level, this fell to 4.2, before reaching 3.0 at secondary level, and 2.1 at higher level.
- *Education and living conditions:* Water and sanitation facilities in households improve living conditions substantially and lead to better health outcomes. In Sindh, data show that the percentage of households using boiled water for drinking and piped sewer systems for sanitation purposes increase considerably with the education level of the head of household.
- *Education and attitudes towards domestic violence:* Attitudes towards domestic violence also change substantially as education levels increase. The percentage of women in Sindh who reported that domestic violence *is* justified was 54.1% among women who have not attended above pre-primary level education, and only 6.3% among women with higher level education.
- *Education and level of interest in public affairs:* Women's interest in public affairs and consumption of news also increases with education levels. While just 0.6% of women who have not attended school higher than pre-primary level reported reading a newspaper at least once a week, this figure jumped to 12.3% for women with primary-level education, and 47% for women who have attended higher education.

The picture presented in the education sector situational analysis provides a clear diagnosis; however, vital details could not be assessed in depth or with precision due to limited availability of timely data. In the absence of disaggregated information of the latest population census vital demographic details are not available. The implication is that a number of population-based indicators are either estimates or based on sample based surveys. Secondly, vital information like private sector share in schools, enrolment and other educational indicators have not been collected for over a decade. The data on survival rates, teacher qualifications and facilities (among others) is limited to government-run schools. The biggest gap is in research on quality of teaching and learning, though this ESA includes original field research in a sample of schools in Sindh. Irrespective, the data available and this research indicate a stark situation.

Introduction

A situational analysis of the school education sector in Sindh (ESA) has been undertaken to form the basis for the development of an Education Sector Plan for 2019 to 2023. The present ESA has been informed by the methodology for sector analysis in the guidelines by UNESCO-IIEP, UNICEF, World Bank and Global Partnership for Education (GPE).[22] The process has been anchored in the Reform Support Unit (RSU) of the School Education and Literacy Department (SELD).

To enquire into the state of affairs two directions were taken. Firstly, the main gaps in implementation of Sindh Education Sector Plan 2014-2018 were explored. Secondly, an analysis of the current state of affairs on access and participation, out-of-school children, quality of education, education governance and management and financing was undertaken. The methodology used was a mix of secondary data sources and research work already conducted, focus group discussions in the districts with teachers, district administrators and communities, and field research commissioned for the ESA. In particular, classroom observations were conducted by Idara-e-Taleem-o-Agahi, which have informed the analysis on pedagogies used by teachers.

All organizations of the Department were consulted. Additionally, focus group discussions were held with district and taluka officials, teachers, parents and students in different districts of Sindh.

The biggest limitation has been data and existing research. The main education data sources that have been used, include Sindh Education Management Information System (SEMIS), Pakistan Social and Living Measurement Survey (PSLM), and Pakistan Education Statistics (PES) 2016-17. Other sources specific to the various sub-areas assessed have also been used (e.g. SAT assessments, finance data, etc).

The available data that can be used to present a comprehensive picture of the education sector in Sindh suffers from a number of limitations. Firstly, disaggregated data from the most recent population census has not been made public. The problem has been partly resolved through the household-based Pakistan Social and Living Measurement Survey. This survey, however, does not provide up to date information on access indicators. Moreover, given the phenomenon of overage enrolments, a measure of participation would have been a better indicator to measure coverage than enrolment rates. The Adjusted Net Attendance Rate given by Pakistan Education Statistics does not compensate for participation rate.

Available data was used to present various trends and gaps. PSLM was used as the source in case of the more universal indicators like NER and GER. Firstly, because its methodology ensures representativeness, and secondly longitudinal trends from as far back as 2004-05 can be determined through it. Finally, it provides a good source for identifying the most salient characteristics of out-of-school children in the province.

The other major source of data used is the Sindh Education Management Information System (SEMIS). It has been collecting data from the early 1990s through an annual school census. It collects data at the school level on teachers, students and facilities in public schools. Over the last few years there has been a nearly exponential growth in private schools across the country. These schools are not covered by SEMIS which significantly limits analysis. The private sector is estimated by some at 30% to 40% of total enrolment. The lack of private schools census is a huge impediment in measurement. Dropouts for public schools may not necessarily be students leaving schools. There are possibilities of shifting to a private school.

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[22] See: https://unesdoc.unesco.org/ark:/48223/pf0000230532

The school census also does not cover students enrolled in schools run by other government departments, non-formal education sector (although recently this data is being collected separately) and madrassas. Combined with the absence of population data, the situation limits the number of indicators that can be measured. One glaring example is the measurement of out-of-school children. There are three major sources using different methodologies. All three have been presented in the report. Beyond this provincial level measure, it is not possible to disaggregate at the district level and rural and urban domains. This has potential policy implications.

Data collected by the Directorate of M&E, such as teacher MIS and school level monitoring, provides an important illustration of key issues such as teacher absenteeism and its trends, making a significant contribution to increasing teachers' and schools' accountability.

Lack of research also handicaps analysis. When it comes to phenomena like female participation in education, dropouts and classroom practices like corporal punishment, research is sparse. The biggest research gaps, that handicap effective analysis, is in the area of learning. There is very little research on the various dimensions of the value chain of education: curriculum, teachers, textbooks and assessments (among others). To the extent possible, the ESA uses recent local research in various areas and is able to provides indicative problems in most of the above components of the education value chain that contribute to poor learning.

There is lack of clarity on the exact reasons for poor learning outcomes. While lack of teacher competence is often quoted, impact of other inputs like multi-grade classrooms, curriculum, textbooks, language policy and assessments have not been adequately researched to provide enough evidence to make a clear attribution.

The next education sector plan (ESP) will, even as it implements various dimensions of education, have to target the scope of data collection and research in education delivery. These are critical to analysis as well as effective implementation and, ongoing, review of the next ESP.

Chapter 1. Context of the Development of the Education Sector in Sindh

Introduction

Sindh is the third largest province in Pakistan with a total area of 140,914 km^2, and the second most populated province with 47,886,051[23] inhabitants. At 339.82 inhabitants per km^2, its population density is also the second highest among the country's provinces.

This chapter provides an overview of the context of education development in the province of Sindh, covering the demographic, social, humanitarian and macroeconomic context. The overview focuses on the period of implementation of the SESP 2014-2018.

1.1 Demographic, Social and Humanitarian Contexts

1.1.1 Demographic Context

According to the preliminary reports of the 2017 Population Census, Pakistan has already surpassed the 200 million inhabitants' barrier, of which Sindh comprises more than 47 million. With an average annual population growth rate of 2.41 between the last two censuses, Sindh faces an uphill challenge to provide opportunities of education to its very young population. Table 1 provides an overview of the demographic evolution of Sindh in the last two decades.

Table 1. Demographic indicators in Sindh, 1998 and 2017

Sindh	1998	2017
Total Population	30 439 893 [a]	47 886 051 [b]
Density	216.02 [a]	339.82 [b]
Urban Population	15 695 457 [a]	24 910 458 [b]
Rural Population	14 744 436 [a]	22 975 593 [b]
Percentage of Urban Population	51.6% [b]	52.02% [b]
Sex ratio	112.2 [a, d]	108.58 [b, d]
Fertility rate	4.892 [c]	3.481 [c]
Under 15 population	42.76 [a, e]	57.27 [b, e]

Sources and notes: [a] 1998 Population Census. [b] 2017 Population Census. [c] World Bank. [d] Males per 100 females [e] As a percentage of active population.

In Sindh, the urban population represents 52% of the total population, a proportion that slightly increased in the intercensal period. Even though receding in its weight, the rural population experienced an increase of 8.2 million, which is also an important challenge for the educational system, since it is more difficult to supply good education services in sparsely populated and hard to reach areas.

The distribution of the population in the different regions of the province is as follows:

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[23] Pakistan Bureau of Statistics, 2017 Population Census of Pakistan

Table 2. Distribution of population by districts in Sindh, 2017

Divisions		Male	Female	Trans-gender	Total	Average Annual Growth Rate 1998-2017	Urban percentage
SINDH		24 927 046	22 956 478	2 527	47 886 051	2.41	52.02
	RURAL	11 919 109	11 056 183	301	22 975 593	2.36	
	URBAN	13 007 937	11 900 295	2 226	24 910 458	2.46	
LARKANA		3 176 416	3 015 803	161	6 192 380	2.05	31.54
	RURAL	2 176 351	2 062 803	36	4 239 190	1.83	
	URBAN	1 000 065	953	125	1 953 190	2.55	
SUKKUR		2 865 909	2 672 444	202	5 538 555	2.52	34.30
	RURAL	1 879 470	1 759 544	38	3 639 052	2.54	
	URBAN	986 439	9 129	164	1 899 503	2.48	
HYDERABAD		5 495 980	5 096 242	413	10 592 635	2.33	36.71
	RURAL	3 475 736	3 228 139	75	6 703 950	2.19	
	URBAN	2 020 244	1 868 103	338	3 888 685	2.59	
KARACHI		8 439 659	7 610 365	1 497	16 051 521	2.60	92.89
	RURAL	606 588	534 499	82	1 141 169	5.56	
	URBAN	7 833 071	7 075 866	1 415	14 910 352	2.43	
MIRPUR KHAS		2 218 094	2 010 485	104	4 228 683	2.62	18.95
	RURAL	1 801 103	1 626 359	37	3 427 499	2.64	
	URBAN	416 991	384 126	67	801 184	2.53	
SHAHEED BENAZIRABAD		2 730 988	2 551 139	150	5 282 277	2.17	27.59
	RURAL	1 979 861	1 844 839	33	3 824 733	2.15	
	URBAN	751 127	7 063	117	1 457 544	2.23	

Source: Pakistan Bureau of Statistics, 2017 Pakistan Population Census. http://www.pbs.gov.pk

Estimates using projections by World Population Prospects suggest that Sindh's total population could increase to up to 59 million inhabitants in 2030, of which 18.1 million would be aged 0 to 14 years.

Assuming World Population Prospects' forecasts for all Pakistan apply equally to Sindh, the population of 0-14 years old would increase more slowly than the rest of age groups in the next 13 years.[24] This means that child dependency ratio[25] would decrease, from the current 57% to 48% in 2030. The decrease of child dependency ratio is an opportunity to ensure access to every education level and to improve quality of the education system, since it would decrease the relative effort to provide sufficient funds. Because of the increase in population of working age (15-64 years old) in relation to the population of 0-14 years old throughout the entire period of 2018-2030, the education system would benefit from a wider fiscal base, if future macroeconomic conditions and an adequate job creation allow it, facilitating the investments in human capital of future generations.

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[24] This is a very crude estimate for the purposes of illustration only. It does not substitute for age-wise projections to be made with the 2017 Population Census, and has to be employed with caution.

[25] Child dependency ratio: Ratio of population Age 0-14 / Population Age 15-64.

Figure 1. Projections for Sindh population 0-14 years old
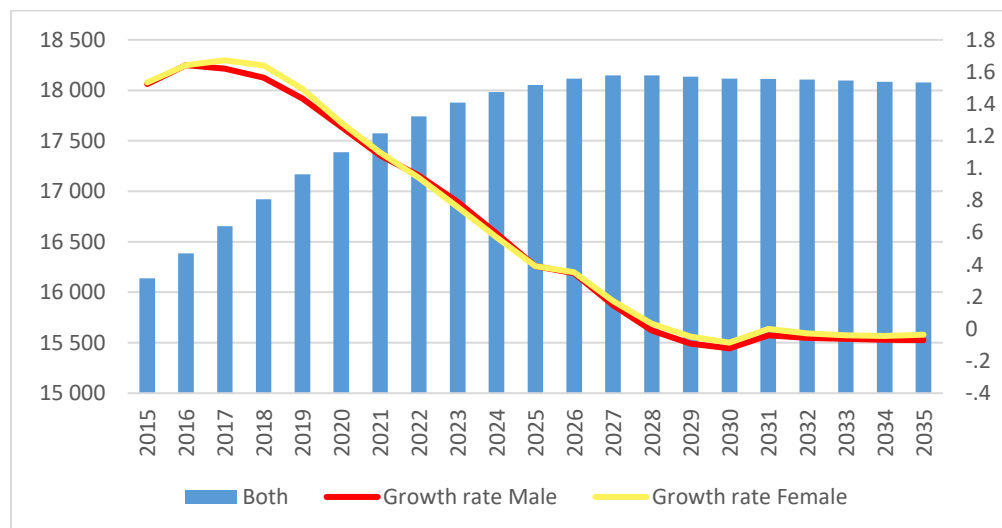
Source: Estimates based on World Population Prospects 2017 revision https://esa.un.org/unpd/wpp/

Note: assuming population growth rate would be homogeneous throughout the whole territory of Pakistan

The net migration rate in Pakistan is consistently negative since 1990, and projections made by World Population Prospects estimate that it will continue to be so at least until the end of the century, but with a steady decrease for the years to come. This situation means that the country is losing part of its human capital, even if remittances could contribute to the development of Pakistan.

There are also internal migratory movements in Pakistan. According to the last Annual Report of Labour Force Survey of the Government of Pakistan, published in 2015, 34.8% of inter-provincial migrants in Pakistan moved to Sindh, being the second most receiving province. In addition, Sindh is the province with the second most intra-province migration.

1.1.2 Social context

Although Pakistan's Human Development Index (HDI) rankings have improved over the last two decades, inequality is a major concern and poverty, especially in rural areas, is very high. Infant and under-five mortality and child malnutrition are also high, again especially in rural areas. Literacy rates in Sindh particularly among women and in rural areas are quite low and below the national average.

Human Development

Pakistan has made progress on the Human Development Index (HDI) since 1990. The index increased from 0.404 in 1990 to 0.562 in 2017, equivalent to a 39% increase. The current level places the country in the medium human development category. However, Pakistan still ranks 150th globally and its level of HDI is below the average for countries in South Asia, which means that there is still need for improvement in basic development indicators.[26]

As for Sindh province, the HDI reaches 0.640, but this masks wide disparities in terms of districts levels of development. Most of the districts correspond to a low medium level of development; however, in the southern part of Sindh the disparities are extreme. Tharparkar, Umerkot, and Sujawal have the lowest levels of human development measured by the HDI, and Tharparkar in particular, experiences

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[26] UNDP (2018). Human Development Indices and Indicators: 2018 Statistical Update, Pakistan.

severe deprivation. Karachi and Hyderabad, on the other hand, fall in the categories of high and high medium HDI, respectively. The gaps in human development index are an indication of the need to adopt more intense measures in certain districts of the province.

Figure 2. Human Development Index in urban Sindh by district, 2015
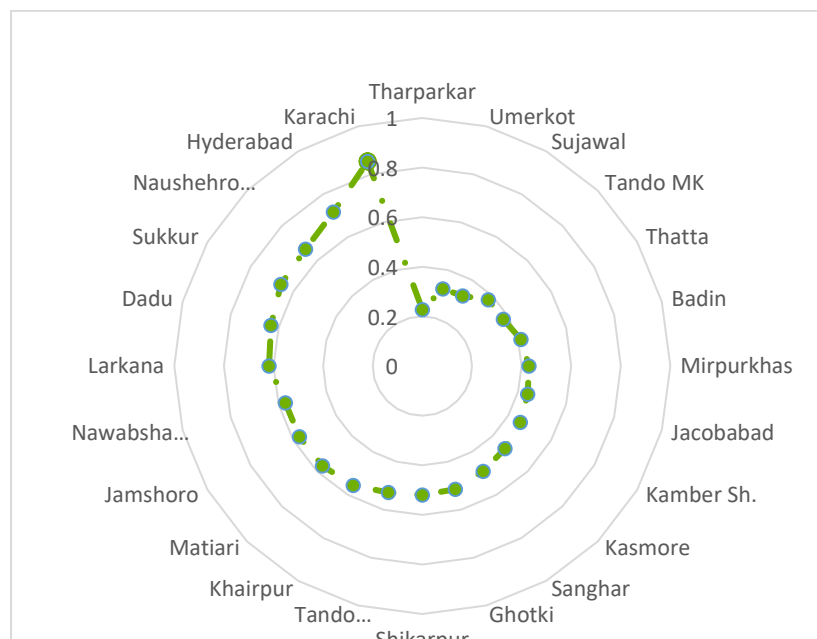
Source: UNDP (2017). Pakistan Human Development Index Report 2017.

The UNDP Human Development Report 2017 provides a measure that reflects the extent of inequality in the distribution of the three HDI dimensions. The inequality-adjusted HDI, or IHDI, is constructed by taking into account the distribution of indicators in health, income and education among the country's population. The IHDI equals the HDI when there is no inequality across the population but falls below the HDI as inequality rises. The bigger the difference between the HDI and the IHDI, the bigger are the inequalities. The current IHDI of Pakistan is 0.38, suggesting high inequality given the HDI of 0.56, and corresponds to a low level of human development. Gender differences are also pronounced in terms of basic development indicators. The HDI for females is 0.45 whereas that for males is 0.61, showing big differences between men and women in Pakistan in terms of access to health, education and income.

The Gini coefficient, which measures inequality exclusively in terms of income distribution, scores 30.7 in Pakistan. This coefficient has decreased since 1990 when it was 33.3, but with high variations within the period 1990-2013. The lowest level of income inequality was achieved in 1996, when the Gini coefficient was 28.7[27].

The recently published World Bank's Human Capital Index (Picture 1) also reveals a disappointing state of progress. The human capital index comprises of various indicators. The first component reveals that the probability of survival to age five in Pakistan is 0.925, with 0.922 for males and 0.929 for females. This means 93% children can be expected to live until age 5. The second component, expected years of schooling reaches 8.8 years overall, with 8.1 for females and 9.5 for males. Factoring in what children actually learn, expected years of schooling is only 4.8 years.

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[27] World Bank, 2018 - https://datacatalog.worldbank.org/dataset/world-development-indicators

Picture 1. World Bank Human Capital Index, Pakistan. Summary table

Table 3: Human Capital Index and Components: Summary Table						
Indicator	Most Recent Estimate			Year of Most Recent			Source
	Male + Female	Male Only	Female Only	Male + Female	Male Only	Female Only	
HCI Component 1: Survival							
Probability of Survival to Age 5	0.925	0.922	0.929	2017	2017	2017	UN Interagency Group for Child Mortality Estimates
HCI Component 2: School							
Expected Years of School	8.8	9.5	8.1	2016	2016	2016	World Bank Staff Estimates
Harmonized Test Scores	339	335	343	2017	2017	2017	Patrinos and Angrist (2018)
HCI Component 3: Health							
Survival Rate from Age 15-60	0.841	0.823	0.861	2017	2017	2017	UN Population Division, Interpolated
Fraction of Children Under 5 Not Stunted	0.550	0.518	0.582	2012	2012	2012	UNICEF-WHO-WB Joint Malnutrition Estimates
Human Capital Index (HCI)	**0.39**	**0.39**	**0.38**				**World Bank Staff Estimates**
Uncertainty Interval	[0.37,0.40]	[0.37,0.41]	[0.37,0.40]				World Bank Staff Estimates

http://www.worldbank.org/en/publication/human-capital#Data

Harmonised test scores reach 339 overall, with 335 for males and 339 for females. These scores are out of 1000 with 300 being the bare minimum requirement and anything over 625 and over indicates advanced attainment.

In regards to health indicators, 84% of children aged 15 are likely to survive till age 60, 82% in the case of males and 86% females. A great concern is children's malnutrition levels: 45% of children under age 5 are stunted. The overall HCI score of 0.39 means "A child born in Pakistan today will be 39 percent as productive when she grows up as she could be if she enjoyed complete education and full health"[28].

Poverty

Another dimension of the social context of Sindh relates to the extent of poverty. According to data from the World Bank, 29.5% of people in Pakistan live below the national poverty line. However, this is a partial picture and does not capture the extent to which the population is deprived of basic services that have also an impact on their ability to generate income, among other aspects. The Multidimensional Poverty Index tries to tackle these dimensions, employing several indicators related to health, education and standards of living. People who suffer deprivations in 33% or more of the indicators in the index are said to be "multidimensional poor"[29]. Using this measure, 38.8% of the total population of Pakistan were considered multidimensional poor in 2014-15. Applying this proportion to the figures of the 2017 population census, it would result that almost 95 million people in Pakistan would be in multidimensional poverty.

In the specific case of Sindh, 43.1% of its population suffers from multiple forms of poverty, which would add up to 21 million people, if applied to the figures of the latest census[30]. Differences between urban and rural areas in Sindh are substantial. Multidimensional poverty affects three in four people living in rural areas of Sindh, compared to one in ten of those living in urban areas. Nevertheless, the proportion of people in multidimensional poverty has slowly decreased between 2004 and 2014 in both urban and rural areas: from 28.2% to 10.6% in the former, and from 88.1% to 75.5% in the latter.

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[28] https://databank.worldbank.org/data/download/hci/HCI_2pager_PAK.pdf

[29] Alkire, S., and M. Santos. 2010. "Acute Multidimensional Poverty: A New Index for Developing Countries." Human Development Research Paper 2010/11. UNDP-HDRO. New York. http://hdr.undp.org/sites/default/files/hdrp_2010_11.pdf.

[30] UNDP. "Multidimensional Poverty in Pakistan." http://www.ophi.org.uk/wp-content/uploads/Multidimensional-Poverty-in-Pakistan.pdf

As with other dimensions of human development, there are strong inter-district differences. Three districts have more than 80% of their population living with multidimensional poverty: Tharparkar (87%), Umerkot (84.7%) and Sujawal (82%). Six others have 70%-80% of their population in multidimensional poverty (Thatta, Tando Muhammad Khan, Kashmore, Badin, Kambar Shahdadkot and Jacobabad).

Figure 3. Multidimensional Poverty Headcount (Percent)
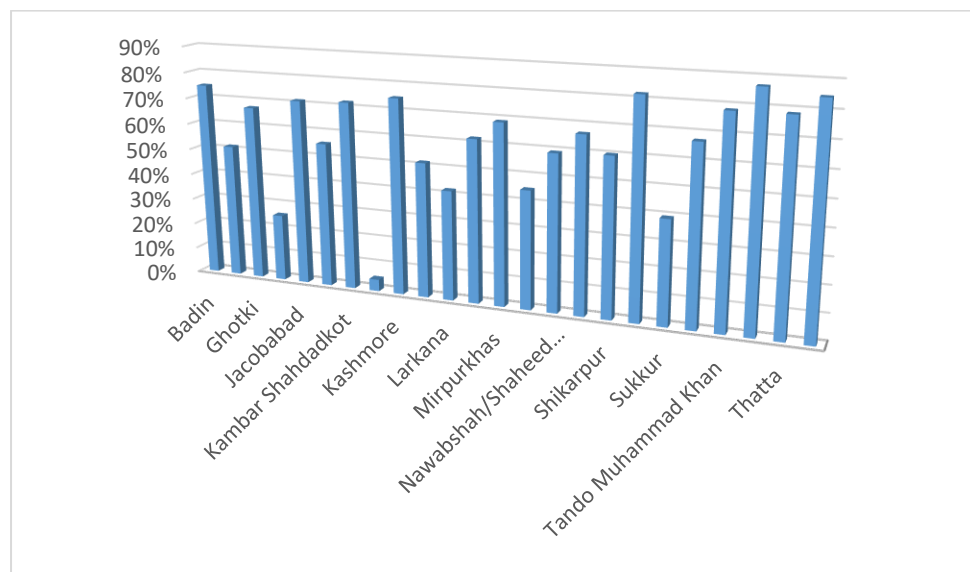
Source: UNDP. 2015. Report on Multidimensional Poverty in Pakistan.

Child health and nutrition

Infant and under-five mortality rates in Pakistan are falling but remain higher than regional averages. Infant mortality currently states at 62 per 1000 live births and under-five mortality rates at 74 per 1,000 live births[31]. Despite this positive trend, infant and under-five mortality in Pakistan still surpass the average rates for the South Asia region, at 40.7 and 50.8 respectively[32].

According to (Multiple Indicator Cluster Survey) MICS 2014 data, infant and under-five mortality rates in Sindh reached 82 and 104 per 1,000 live births, respectively. However, there are stark differences between urban and rural areas: mortality rates of the youngest children in rural areas are almost double than that of urban areas in Sindh.

Table 3. Infant mortality rate and Under-five mortality rate in Sindh, 2014

	Infant mortality rate	Under-five mortality rate
Sindh	82	104
Rural	106	139
Urban	57	69
Punjab	76	95
Rural	83	105
Urban	57	69

Source: UNICEF 2014 MICS Sindh and MICS 2014 Punjab

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[31] Demographic and Health Survey 2017-18.
[32] 2016 UNDP Human Development Report

When compared to Punjab[33] the data in Sindh is worse on all accounts except in the urban areas. Overall, infant mortality for Punjab is 76 and for rural areas 83 per 1000 live births. In case of under-five mortality, the rural gap widens even further.

Regarding child malnutrition, a high percentage of children in Sindh are underweight, stunted or wasted. More than one in ten children under the age of five are moderately underweight and 4.4% are severely so. Almost half of the children under-five years are moderately stunted and an additional 29% are severely stunted, indicating chronic malnutrition. Over 40% of the children under-five years are too thin for their height, or wasted, a condition reflecting nutritional deficits. Children in rural areas suffer the most: 40% are severely stunted and 25% are severely wasted.

Table 4. Nutritional status of children under age five in Sindh, 2017 (Percent)

	Underweight		Stunted		Wasted	
	Moderate	Severe	Moderate	Severe	Moderate	Severe
Sindh	11.7	4.4	49.9	29.0	40.2	18.0
Rural	13.0	4.6	61.6	40.1	51.2	25.2
Urban	10.0	4.3	35.5	15.4	26.4	9.1

Source: DHS 2017-18

Literacy

Literacy rates for the population age 10 and above have risen steadily in the last 35 years in Pakistan, although they remain quite low at 58% in 2015-16. The following figures show literacy rates by sex and location at the time of the 1981 and 1998 census, and in 2015-16 as captured by the PSLM survey[34].

Even though the literacy rate of women tripled between 1981 and 2015-16, still less than half of the women in Pakistan are literate, compared to 70% of men. Low levels of literacy are more acute among women in rural areas: just 36% are literate. More intensive efforts in rural areas, and particularly among women are urgently needed.

Moreover, literacy rates in Sindh are currently below the average for Pakistan (55% in Sindh compared to 58% in Pakistan), which was not the case in 1981 and 1998. This is mostly driven by enduring low literacy rates in the rural areas. Though there has been a small improvement, overall literacy in these areas is only 36%. The condition of women is alarming, with 44% literacy overall in Sindh, and only 19% in rural areas. Sindh has to make major efforts in the years to come to increase literacy rates among its population.

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[33] The comparison has been made with Punjab as for 2014 MICS data is available for Punjab and Sindh only
[34] At the time of this report, literacy rates from the 2017 Population Census had not yet been released. Therefore, the rates for 2015-16 should be taken with caution.

Figure 4. Literacy Rates in Sindh by geographical area and sex, in 1981, 1998 and 2015-16 (Percent)
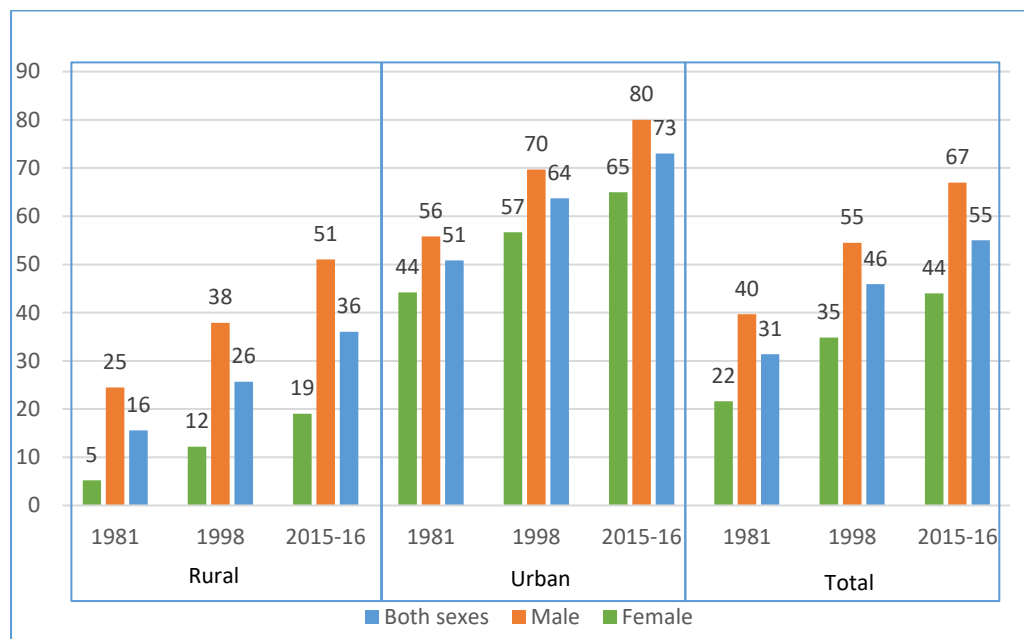
Source: PSLM, various years

Disability

There is a dearth of up to date information on disability status of the population. Latest available data is from the 1998 census, in which only some forms of disability where recorded. The total population with disabilities in Sindh in 1998 added up to 929,400 people, a majority of them (58.5%) living in urban areas.

Language

The current linguistic profile of the province is difficult to establish until final data from 2017 census is available. The 1998 population census included a classification of population by the language spoken at home. It results from that census that Sindhi is the most spoken language (59.7%), followed by Urdu (21.1%), and Punjabi (7%). Urdu is mostly spoken in urban areas (41.5% versus 1.6% in rural areas). In rural areas, Sindhi is almost hegemonic (92%).

1.1.3 Humanitarian context

Pakistan has suffered different humanitarian crisis, including floods and earthquakes, with devastating consequences. The loss of human lives and the economic damages provoked by these events are very important and must be taken into consideration when planning for the education system. Floods in 2010, for example, provoked a total or partial destruction of 18.5% of the existing education facilities (a total of 5,655 Primary, Middle, Secondary and Higher Secondary schools), and in addition 2,372 schools were used as shelters for Internally Displaced People. The reconstruction of the damaged schools was estimated at almost 23 billion Rs (268.7 million US dollars)[35], only in Sindh province. Not only affected schools are to be taken into consideration, but also consequences on housing, health or sanitation are important to the development of an adequate response and can delay the advances of

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[35] Pakistan Floods 2010. Preliminary Damage and Needs Assessment. Asian Development Bank and World Bank.

the education system in Pakistan. Though disaster risk reduction measures have been implemented, according to the Global Assessment Report on Disaster Risk Reduction from 2015, issued by the UNISDR, Pakistan still has work to do to be able to promptly recover from disaster-related events that could take place in the future.

1.2 Macroeconomic Context

Pakistan experienced solid economic growth in the past five years, however growth rates remain below the regional average in South Asia. Tax collections as a percentage of GDP have also risen but remain extremely low. Low levels of ODA and high debt payments have constrained spending on social services such as education.

In 2016, Pakistan was the second largest economy in South Asia with a GDP of $279 billion[36]. According to estimates, Sindh's GDP accounted for approximately 27.5% of Pakistan's GDP in 2010[37], making it comparable to the GDP of Sri Lanka and larger than Uzbekistan or Myanmar's GDP. National GDP growth has been 4.8% over the last five years[38] and is forecasted to increase to 6% in 2020, according to the World Bank. However, these rates remain below the average in South Asia.

Figure 5. Pakistan GDP growth (Percent)
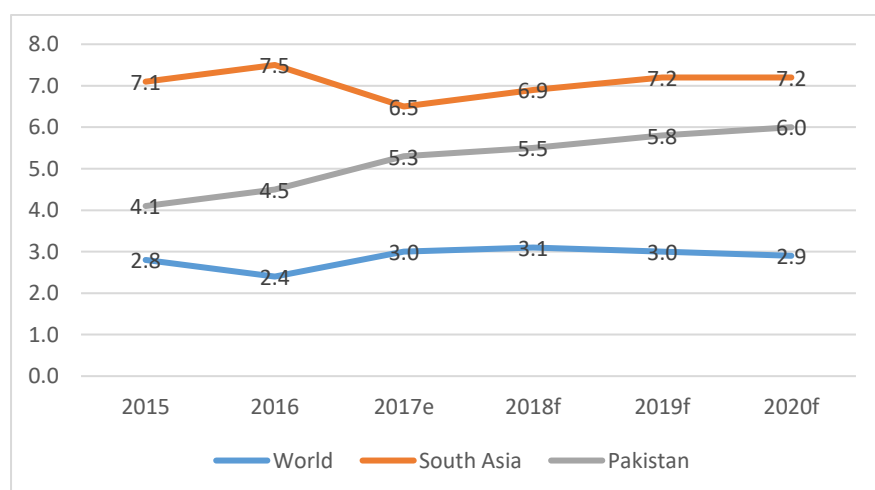
Source: World Bank. e = estimate; f = forecast

In order to finance the Education system, countries count on resources generated internally through tax collection and other sources of internal revenue, as well as with external resources such as Official Development Aid. Pakistan's internal revenue accounted for 15.4% of GDP in 2016-17, with a tax burden in 2017 estimated to reach 12.4% of GDP[39].

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[36] Current US$, World Bank.
[37] World Bank, 2017. Pakistan Sindh: Public Expenditure Review
[38] Pakistan Minister of Finance. Economic Survey 2017-18
[39] Economic Survey 2017-18, Pakistan Minister of Finance

Figure 6. Government's revenue 2004 – 2016 (Percentage of National GDP)
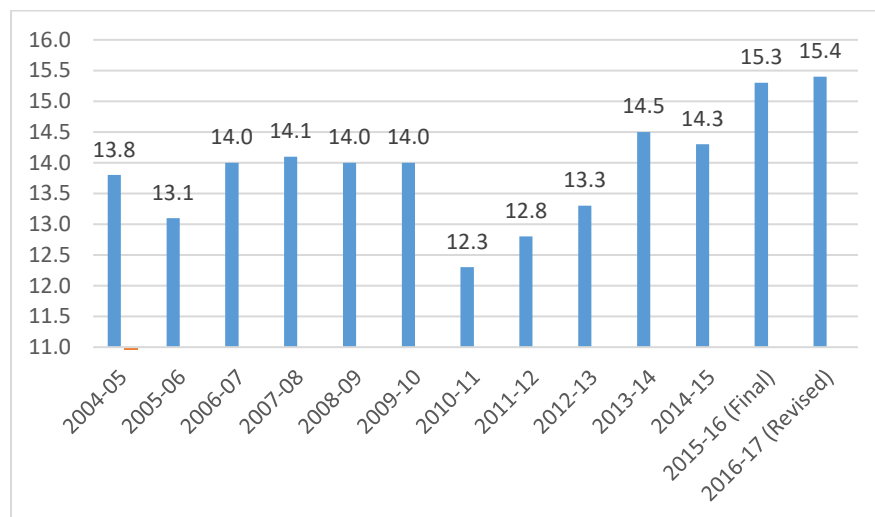
Source: Economic Survey, 2017-18, Pakistan Minister of Finance

The tax burden has also augmented, from 9.3% of GDP in 2011 to a 12.4% estimated for 2016-17. Such an increase reduces the difference with the world average, but it still remains very low.

Figure 7. Tax burden 2004-2016 (Percentage of National GDP)
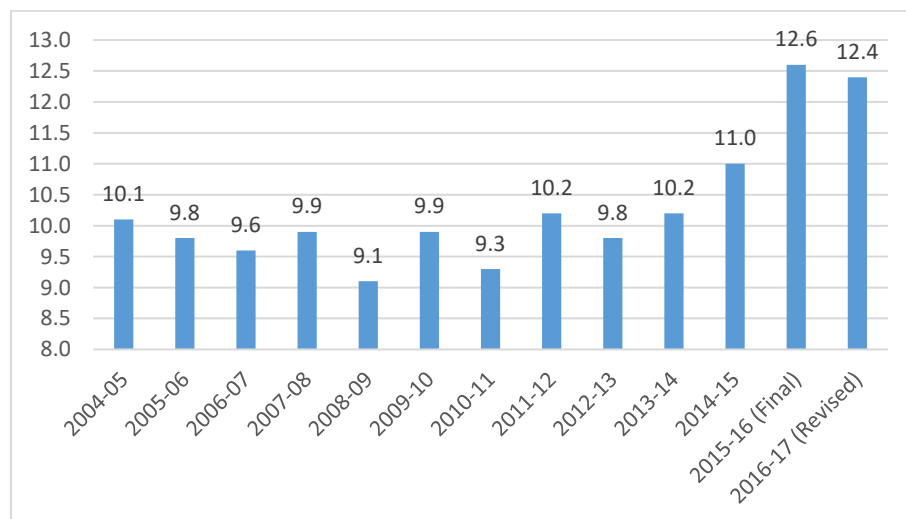
Source: Economic Survey, 2017-18, Pakistan Minister of Finance

The government's forecast for 2017-18 is that internal revenues will have increased up to 17.2% of the GDP and tax collection will have increased up to 13.7% of GDP, which is connected with recent policy statements to expand the taxpayer base, improve the efficiency and fairness of tax management, and increase tax compliance. The evolution of domestic government resources in Pakistan during recent years encourages being prudent when considering these forecasts, however, since they would represent a steep increase within a year.

However, it is the provinces that hold the competences for Education and, therefore, it is the revenue for Sindh's province that should be taken into account to calculate the resource envelope. For 2017-18 Fiscal Year, the federal budget includes a 2,384,243 Rs million transfer to the provinces, a total of

44.9% of all federal revenue. About a quarter of these total transfers should have been allocated to Sindh (24.55%)[40].

Sindh's total revenue in the fiscal year 2017-18 reaches 904.2 Rs billion, of which about 60% comes from the corresponding share of federal taxes, 20.5% from province taxes, and the rest from other sources such as non-tax revenue.

Pakistan's revenue from Official Development Aid during the last 15 years has been between 0.85% and 2.9% of Gross National Income (GNI). The latest data, of 2016, shows ODA of 1% of GNI, according to the World Bank. Official Development Aid dependency rate, or the share of total resources that represent the loans and grants from external aid, reaches 17.6% during 2017-18 Fiscal Year, according to Budget in Brief 2017-18 data.

The high weight of debt payments is a significant budget constraint in Pakistan, as it reduces the resources available for social services. According to the Federal Medium-Term Budget Estimates by Pakistan's Ministry of Finance, debt represented 64.9% of total GDP in 2015-16 fiscal year.

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[40] Budget in Brief 2017-18.

Chapter 2. Access and Participation

Key Findings:

- *Access and participation indicators in Sindh are disappointing. All indicators are below the national average, with wide gaps between girls and boys and between rural and urban areas.*

- *Rural girls present the weakest values for all indicators. Overall, children in rural areas register lower indicators of access than their peers in urban centres.*

- *Net enrolment rates for all levels are low with decline in numbers as the levels move from primary to middle and secondary:*
- *Primary NER for ages 6 to 10 is 61, with 67 for boys and 54 for girls. Rural girls have a primary NER of 41. The national NER average is 67.*
- *Middle NER for ages 11 to 13 is 34, with 37 for boys and 30 for girls. Rural girls have a middle NER of 14. The national average is 37.*
- *Secondary NER for ages 14 to 15 is 25, with 29 for boys and 20 for girls. Rural girls have a secondary NER of 6. The national average is 27.*

- *The NER may underestimate actual participation as there is a tendency for overage enrolments. In turn, overage enrolment heightens the risk of dropping out.*

- *Maximum dropout is at primary level where 50% of the children abandon school. Another 27% of the remaining children leave the system in the transition from primary to middle. The few children that do continue their schooling tend to remain in the system: dropouts at middle and secondary are 4% and 8% respectively.*

- *Key issues and causes of low access and retention from a supply perspective:*
- *Multi-grade classrooms wherein more than 65% schools have two or less teachers;*
- *Low school availability, especially, after primary. The province has 42,383 public sector schools (viable) of which 2241 are elementary/middle, 1719 secondary and 291 higher secondary educational institutes.*
- *Missing facilities, with nearly 50% of schools lacking all or most of the basic facilities.*
- *Corporal punishment in schools*
- *Non-formal education that supports the mainstream system by fast tracking out of school children back to formal schools has been weak and has very limited coverage. It needs to improve rapidly to support implementation of Article 25A of the Constitution of the Islamic Republic of Pakistan.*

Introduction

The situation of low participation at all levels of education continues despite five years of education sector plan implementation and a number of reforms in the province. The trend of low access indicators has remained 'stable' over the last many years and none of the access related targets of the SESP 2014-2018 have been met. Only a small portion of the operational work required in the Sindh SESP was initiated. Most of the completed actions were on the policy side, such as finalization of the policy on Non-formal Education (NFE) and of Early Childhood Care and Education (ECCE) along with ECCE Curriculum and Standards.

The numbers of children attending school reduce drastically from primary to middle and secondary, due to dropouts and losses in transition across cohorts. This situation, coupled with a high proportion of children never entering the education system, results in large number of out of school children (OOSC)[41]. Low gross and net enrolment rates at primary, middle and secondary level and low gross intake rates at primary level indicate serious problems in access and retention. Within this, overall low participation indicators especially those for rural girls are the worst. The rural-urban gap is also pronounced as both boys and girls in urban areas have greater participation rates than children in rural areas.

This sector analysis adds two indicators that were not part of the Key Performance Indicators of SESP 2014-18: i) participation of children through Adjusted Net Attendance Rate, and ii) student absenteeism. The first one shows that a large proportion of children attend primary school at an age above the official age and the trend continues into middle and secondary schools. This poses a high risk of dropout with minimal schooling. Student absenteeism data collected through the SELD real-time monitoring system reveal that the problem extends beyond simple registration on school rolls. Almost 50% of children in the province do not attend classes regularly. This renders schooling even less effective and would indicate an eventual departure from school.

Assessing the Situation: Data Limitations

The indicators available for assessment of school participation in the province provide an approximate picture. Timely and precise information on the number of in school and out of school children is elusive, due to multiple factors. The number of out of school children reported vary according to the methodologies employed to estimate figures. Indicators like the Net Enrolment Rate (NER), for instance, become weak measures for estimation of OOSC due to the trend of admitting children in late years: a number of out of school children could be just in the pipeline. A relatively more accurate picture emerges from rates that unplug participation from the relevant age cohort, such as the Adjusted Net Attendance Rate. However, even with this indicator, which shows more children in school than the NER, participation clearly remains a challenge in Sindh. The analysis of data presented in this chapter and the subsequent one on out of school children estimate the challenge of participation within the limitations of the indicators used. Evidently, this lack of precise information makes planning efforts to improve school participation an even more daunting task.

In all, four data sources have been used to estimate access-related indicators: Sindh Education Management Information System (SEMIS), Pakistan Social and Living Measurements Survey (PSLM), Pakistan Education Statistics (PES) and Monitoring Reports of the Directorate General of Monitoring and Evaluation of SELD.

SEMIS covers public sector schools under the School Education and Literacy Department (SELD) on an annual basis. However, the annual school census does not cover private sector schools or public

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[41] The issue of out of school children has been discussed in greater detail in the next chapter.

schools run by other government entities like Railways, armed forces etc., so far[42]. Also, Madrassahs (traditional schools of religious education) are not covered. This means the data available in SEMIS does not allow to calculate indicators like Net and Gross Enrolment Rates and even literacy rates. Pakistan Education Statistics collates data from all provincial education management information systems and calculates indicators on the basis of population estimates by the National Institute of Population Studies (NIPS). PES also estimates private sector enrolment and schools in different provinces. For Sindh, PES develops projections annually using private school data from National Education Census 2005. Pakistan Social and Living Measurements Survey covers the deficit through regular household surveys. These provide a good estimate of the situation, allowing to measure Net and Gross Enrolment Rates, Net Attendance Rates, and to depict the main characteristics of the children who are missing on education. However, the time lag of this survey diminishes its usefulness for planning purposes. The Directorate General of M&E collects data, almost on an ongoing basis, on teacher and student absenteeism. For this chapter the latter has been used.

The last completed population census in Pakistan was conducted in 1998 and after a lapse of nearly 20 years, another was conducted in 2017. So far, the data of the latter has not been officially made available nor employed in education statistics. This means all data presented in this chapter has to be seen as indicative of the situation, until age-specific data from the latest census is available.

2.1   Benchmarking Access and Participation

Access and participation in Sindh can be assessed against three benchmarks: the requirements of Article 25A of the Constitution of the Islamic Republic of Pakistan and the consequent Sindh Right of Children to Free and Compulsory Education Act 2013, targets of the Sustainable Development Goals agenda, and in particular SDG4, and the targets of Sindh Education Sector Plan 2014-2018. The first three provide absolute or long-term goals and the third shows the progress intended and achieved since the last sector plan.

Article 25A of the Constitution of the Islamic Republic of Pakistan

Article 25A of the Constitution of the Islamic Republic of Pakistan mandates on the state, as a fundamental right, to provide free and compulsory education to all children aged 5 to 16:

"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."

In pursuance of the requirement of the Constitution, Sindh provincial assembly passed "The Sindh Right of Children to Free and Compulsory Education Act, 2013". It states:

"Every child of the age of five to sixteen years regardless to sex and race shall have a fundamental right to free and compulsory education in a school.

No child shall be liable to pay any kind of fee or charges or expenses which may prevent him or her from pursuing and completing the school education."

Successful achievement of the requirements of Article 25A of the Constitution requires the following targets of indicators to be met:

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[42] At the moment of writing this report, SEMIS has prepared a data collection plan to gather information on private schools.

Table 5. Key indicators related to Article 25A of the Constitution of the Islamic Republic of Pakistan

Indicator	Required Value	Current Value
Primary NER (6-10)	100	61
Middle NER (11-13)	100	34
Secondary NER (14-15)	100	25
Survival Rate Primary	100	60
Survival Rate Middle	100	96
Survival Rate Secondary	100	92
Transition Rate between Primary and Lower Secondary Levels	100	73
Transition Rate between Lower Secondary and Upper Secondary Levels	100	99

Source: Pakistan Social and Living Measurements Survey (PSLM) 2015 and Pakistan Education Statistics (PES) 2017

The above list is not exhaustive. Irrespective, the gap between the required and actual numbers is high, especially, at post primary levels.

Sustainable Development Goals

Goal 4 of the Sustainable Development Goals calls on countries to "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". The Goal has 10 targets (7 of these are actually targets covering different aspects of education and 3 means of implementation) along with associated indicators for each target to monitor the progress. The Incheon Declaration, adopted by 160 countries in 2015 (including Pakistan) and Education 2030 Framework of Action provides further guidance on operationalizing the goals including indicative strategies, structure of governance, monitoring, follow up and review mechanisms.

Sindh Education and Literacy Department has yet to internalize the SDG 4 targets and reporting mechanism. Recently there has been an effort to develop Sindh SDG 4 strategy to prioritize the indicators for implementation and reporting. Table 2 below shows the targets and indicators for SDG 4 along with the current situation in terms of data availability. There are some issues in standardized data collection and data availability aligned with the methodologies, questionnaires and reporting guidelines from Technical Cooperation Group and Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs). In some cases where the data is being collected, it is not collated to assess progress against the targets.

Table 6. SDG 4 targets and indicators

Targets and Indicators for SGD 4		
Targets	Indicators	Current situation in Sindh
4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex	For (a) only the non-government ASER produces the indicators. For (b) and (c), SAT can be used but it has to be a regular feature. The best option is for PEAC to collect the data for a baseline.

4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education	Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex	There is no regular data. Only MICS data collected by UNICEF every 4 years includes some of the required information.
	Participation rate in organized learning (one year before the official primary entry age), by sex	Participation rate data for one year before official primary entry age is not collected
4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex	With introduction of NFEMIS, this data is now available but the indicator has not been calculated.
4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill	No data is collected (this will have to be sample based data)
4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations	Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated	Some data is available while other will need to be collected on a more regular basis. Indicators will have to be constructed.
4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy	Percentage of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex	Currently only ASER is collecting this data and the indicator is not mainstreamed by the government.
4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development	Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment	No qualitative review and content analysis available. Content analysis can be done aligned with the methodology, questionnaires and reporting guidelines of UNESCO, Technical Cooperation Group and IAEG-SDGs
4.A Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all	Proportion of schools with access to: (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single-sex basic sanitation facilities; and (g) basic handwashing facilities (as per the WASH indicator definitions)	Most of the data is being collected and available at different levels, indicators can be developed.
4.B By 2020, substantially expand globally the number of scholarships available to developing countries, in	Volume of official development assistance flows for scholarships by sector and type of study	No indicator developed at this point.

particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries		
4.C By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States	Proportion of teachers in: (a) pre-primary; (b) primary; (c) lower secondary; and (d) upper secondary education who have received at least the minimum organized teacher training (e.g. pedagogical training) pre-service or in-service required for teaching at the relevant level in a given country	Technically all teachers are qualified as per the requirements and data is available. However, the key is quality of the teacher education programs and the teacher standards.

Currently the province cannot produce most of the indicators required, as relevant data is not collected. There is a need to prepare baselines for SDG indicators to prepare a path for moving forward and reporting. This will require review of the data collection and indicator frameworks in the province.

Targets of Sindh Education Sector Plan 2014-2018

None of the access-related targets of Sindh Education Sector Plan 2014-2018 have been achieved. Not only have numerical targets not been reached, a number of actions have not been initiated to meet the requirements of specific policy pillars. On the positive side, some work has been completed in terms of policies. Both the Early Childhood Education and Non-formal Education policies have been developed and approved, and constitute an important advancement.

Table 7. Progress on SESP 2014-2018 targets of access

Policy Pillars	Objectives	2018 Targets	Achieved
Transition from ECE to primary and from primary to middle and secondary education will be a priority focus. Primary schools will be upgraded to include the middle level, and the two initiatives of school consolidation and clustering will be strengthened	Develop an ECD/ ECE policy and minimum standards for ECE To transform Katchi classes into ECE To increase enrolment in ECE	Established ECE teaching centre. By end of 2018, 8000 classrooms are transformed into ECE classes. By 2018, increase NER from 32% to 45%	ECE/ECD Policy approved. Information on number of ECE classrooms is not available. Enrolment in Katchi in 2016-17: 751,744 NER at Katchi class not available. 4,239 teachers have been trained in ECE. 1150 SNE approved for ECE teachers. Which

			means this number of teachers can be recruited.
	Increase access at primary level	77%	61% (NER for 6-10 years, was 59% in 2011-12, decreased to 56% in 2013-14, 61% PSLM 2014-15)
	Increase access at middle and elementary level (Grades 1-8)	50%	34% (NER for 11-13 years at Middle level was 34% in 2011-12, 36% in 2012-13, decreases to 29% in 2013-14, and 34% in 2014-15)
Greater access to ECE will be provided to children from marginalized groups in order to promote equity and eliminate social exclusion. Targeted interventions will address disparities at all levels, including geographic (district-wise and urban rural), gender, socio-economic status, poverty and disabilities; by supporting measures such as stipends for needy children and conditional cash transfers for low income households	To move towards inclusive education	8000 teachers trained to impart inclusive education. Impart inclusive education at selected schools.	No clear data available to measure whether 8000 teachers were trained. Also, there is no evidence of inclusive education in selected schools.
An appropriate physical and learning environment will be guaranteed to promote enrolment, retention and learning	To recruit qualified teachers according to merit and need	44,174 additional primary teachers included. 16,023 additional elementary teachers included.	Last recruitment was completed in 2012. Total teachers recruited were 15,659 (PST, JST and HST) through NTS
	To adopt a set of quality standards for primary and secondary schools	Implemented quality standards in at least 5,000 Primary schools.	Standards not developed. A standards committee has been notified.

		Implemented quality standards in all Elementary and Middle Schools.	
	To increase retention rates and track key educational indicators		No action on quarterly data
	To create demand for education in communities	Streamlined all supply side interventions by 2018	New SMCs constituted and trainings undertaken – as the exercise was undertaken only recently the impact remains unclear
	To increase the efficiency of Primary and Elementary schools through an effective school-based supervision system	Collect data quarterly in high enrolment primary schools, online quarterly data collection through website in all middle and elementary levels By end of 2016, reduction in dropout from 17.4% to 10%. Transition is increased from 62% to 75% Survival rate is increased from 47.9% to 65%	School based supervision not operational Average Dropout rate at primary level in 2011-12 was 19%, in 2016-17 the dropout rate is 12.6% Transition rate is 60% Survival rates is 50%
	To improve learning outcomes through implementation of formative assessment in schools	40% schools use formative assessment by 2018. Increase average assessment scores from 32% in Languages to 45%, 19% in Science to 32%, and 15% in Mathematics to 25%.	No evidence of systematic formative assessment is in place. SAT V (2016-17) results are: Language: 32.8 % Science: 21.45% Maths: 25.4%
	To conduct research on service delivery gaps at primary and elementary level	5 districts with lowest access indicators initiate innovative projects to improve access with private sector and 100 mobile vans by 2016.	No progress

Alternative, flexible and non-formal education provision will be made available to children excluded from formal schooling. Formal and non-formal education provision will be made relevant to real life and living needs of children beyond the school.	Develop a comprehensive policy for NFBE and ALP in Sindh. Improve access to literacy and non-formal education, especially for girls in rural areas. Improve the quality and relevance of learning through curriculum and learning materials development.	70% literacy rate in 2018 (increased by 11%) since 2013	NFE Policy developed and approved by the provincial cabinet. Literacy 10+ in 2011-12 was 59%, 60% in 2014-15, 55% in 2015-16 Curriculum and learning material for primary level courses developed.

The table above shows that most of the targets related to access have not been achieved and in some cases, data is not available. Non-availability of data reflects weaknesses in the monitoring mechanism employed for SESP. A district self-reporting mechanism for monitoring has been set up in RSU but there appears to be some issues for the standardization in reporting. Also, a lot of information comes in the form of scanned documents. This creates problems of collation and, subsequently, analysis.

Some critical areas necessary for improvement of participation have not been covered in the Sector Plan. Firstly, the issue of corporal punishment has not been covered. Secondly, the area of inclusive education has been covered but not in enough detail to cover critical aspects like learning materials. Student absenteeism as a subset of the participation problem has also not been discussed. This is understandable as the data from DG M&E, that has underlined the criticality of the issue, has only been collected in the last two years. All of these issues are discussed in some detail later in this report.

2.2   Current Situation

There has only been a marginal improvement in access and participation indicators from the beginning of the SESP period. Most of what appears improvement, probably, emanates from routine and not, necessarily, interventions connected with SESP. There is also an issue of time lag with the data related to participation. Nevertheless, almost all critical indicators of access continue to be low and the number of out of school children remains high.

The current situation has been divided into two components. The first component shows the state of affairs by education level; the second component focuses on the causes, particularly those that relate to the supply side.

The problem, from early childhood education to higher secondary, has been assessed using the following indicators:

i.   Participation in pre-primary
ii.   Gross Intake rate in primary
iii.   Gross and net enrolment rates in primary (6 to 10)
iv.   Gross and net enrolment rates in middle
v.   Gross and net enrolment rates in secondary
vi.   Dropout rates in primary, middle and secondary
vii. Out of school children
viii. Inclusive Education and Special Education Needs

Disaggregation of the above has been made on the basis of gender and location. Level wise the school structure is designed as follows:

Pre-primary: these are, in most cases, called *katchi* class. These are pre-primary aged children admitted in school. Some efforts are being made to convert this class into more modern early childhood education programmes. Official age for pre-primary education is 3 to 5 years.

Primary: Primary covers grades 1 to 5. There is some confusion on the official age. National Education Policy 2009 calls for it to be 6 to 10 years. A clear notification of the provincial government could not be obtained. The age group used for analysis in this chapter is 6 to 10 for primary school.

Middle: Middle constitutes grades 6 to 8. Age cohort used here is 11 to 13. Primary and middle combined is also known as elementary (grades 1 to 8).

Matric or secondary: This covers grades 9 and 10 and age cohort of 14-15 years. This is also known as the secondary level.

Higher Secondary: This constitutes grades 11 and 12 and the age group 16-17 years. Unfortunately, data against above indicators is very limited for this level and has therefore not been covered in the chapter.

Figure 8 below shows enrolment in the public sector at various levels. As is evident, the enrolment drops sharply after primary level with the lowest at higher secondary.

Figure 8. Enrolment in Sindh public schools by level of education, 2012-2016 (number of enrolled)
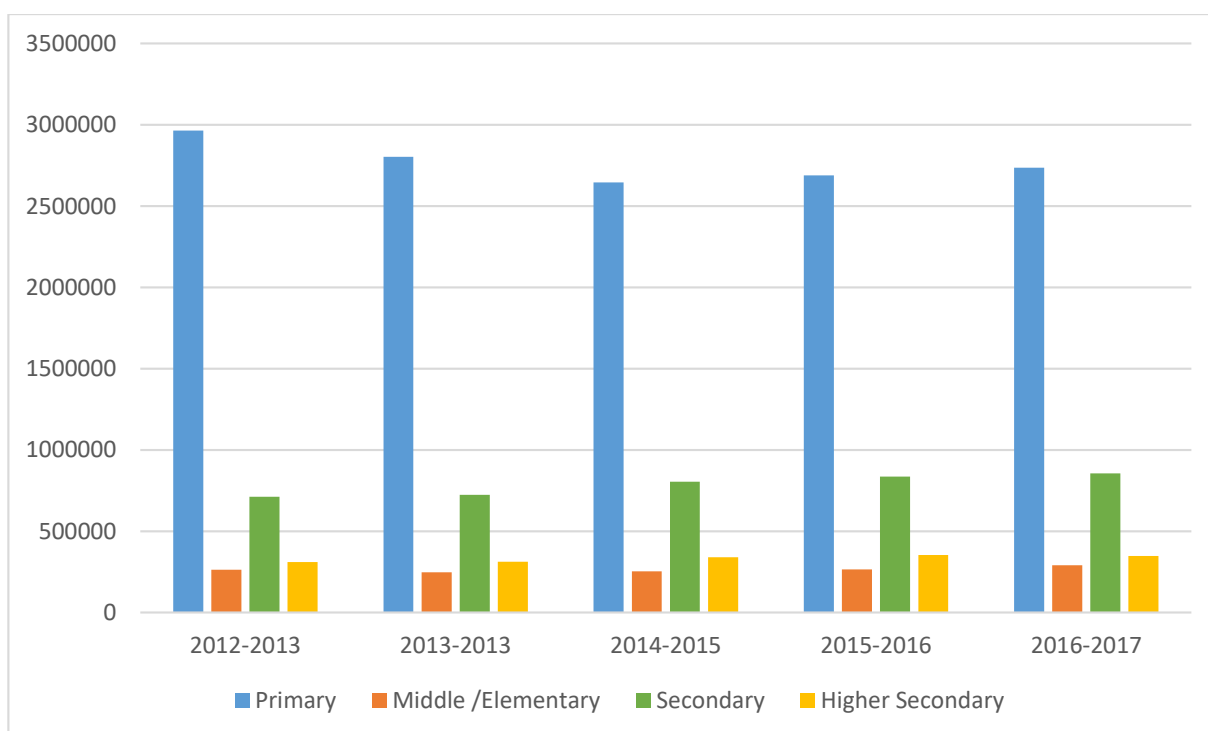
Source: SEMIS 2016-17 Note: Primary includes *Katchi* classes

2.2.1 Pre-primary Education

There has been a sharp rise in pre-primary enrolment in public schools, particularly since 2013. Figure 9 shows an increase of 24% in pre-primary enrolment between 2012 and 2016, and almost 33% since 2013.

Figure 9. Enrolment in Pre-Primary education in public schools, 2012-2016 (number of enrolled)
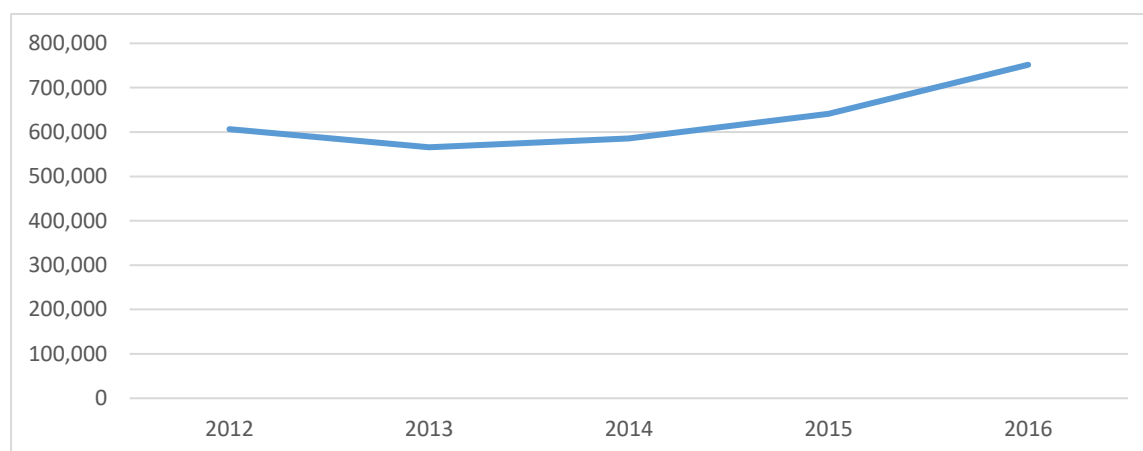
Source: SEMIS 2016-17

Despite higher enrolment, targets projected in SESP 2014-2018 have not been achieved. The target which would have corresponded to the implementation of the SESP strategies, was an enrolment of 1,564,569 students in pre-primary classes in public schools by the end of plan implementation[43]. To accommodate for these enrolments, it was projected that 8000 schools would be transformed from *Katchi* to ECCE. However, the target has not translated into achievement on ground, and may have been too large in relation to the possibilities at the time.

Increased enrolment in pre-primary has to be seen in the context of the type of education being delivered. These are essentially the traditional *katchi* classes where the precepts of modern early childhood education are not known. Many children in *katchi* are below the requisite age. Resultantly, a large number repeats the class and there is a perception of high levels of dropouts from *katchi* to primary. In practice, the increased enrolment has not had the qualitative impact expected of quality ECCE, and does not necessarily translate into better school readiness.

The main achievement during this period has been the development of an ECCE Policy notified in 2015. Recently, the province has developed an ECCE curriculum and ECCE standards. ECCE Directorate has also been established; however, the Directorate lacks financial and human resources to effectively implement ECCE programmes in schools. The province of Sindh has yet to systematically build upon efforts made towards promotion of ECCE.

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[43] Government of Sindh (2014) Sindh Education Sector Plan 2014 – 18, Pakistan: Education and Literacy Department, Government of Sindh, p.96

Box 1. Pre- Primary Education in Sindh

Following the requirements of Article 25A, The Sindh Right of Children to Free and Compulsory Education Act 2013 defines the right to education of children 5 to 16 years of age. However, the Act does contain provision that the Government may make necessary arrangements for providing free pre-school education and early childhood care for the children. The Rules of Business (2016) formulated under the Act further defines the age group of 3-5 years for provision of free pre-school education based on Sindh ECCE Policy 2015. The Rules make it obligatory for the Government to develop a unified curriculum with standards along with establishment of pre-primary classes/section in all Government and aided schools/alternative centers in a phased manner. Opening of new pre-primary classes and utilizing the services of existing teachers is given as an interim arrangement for a period of 3 to 5 years until trained and qualified teachers are recruited progressively. However, there has been little to no progress towards instituting pre-primary education and catering to pre-primary population in age appropriate learning environment with teachers and teaching learning materials.

2.2.2 Primary Education

Primary education has had low indicators over the last many years. Similar to the general trend, indicators have improved only marginally.

Gross Intake Rate

The first indicator to consider is the Gross Intake Rate (GIR). GIR at Primary is the total number of new entrants in Grade 1 of primary education, regardless of age, expressed as a percentage of the population at the official primary school entrance age. Sindh has a low GIR of 39%.

Some districts present relatively high GIRs, such as Umerkot (70%), Tharparkar (69%), Matiari (61%) or Sujawal (60%), but most of the districts have GIR below 50%. The worst situation can be observed in the districts in the Karachi region, where access in public primary schools is extremely low (see Figure 10). This is probably due to a much higher share of private sector in enrolment in Karachi.

Figure 10. Gross Intake Ratio in public Primary education by districts, 2016-17 (Percent)
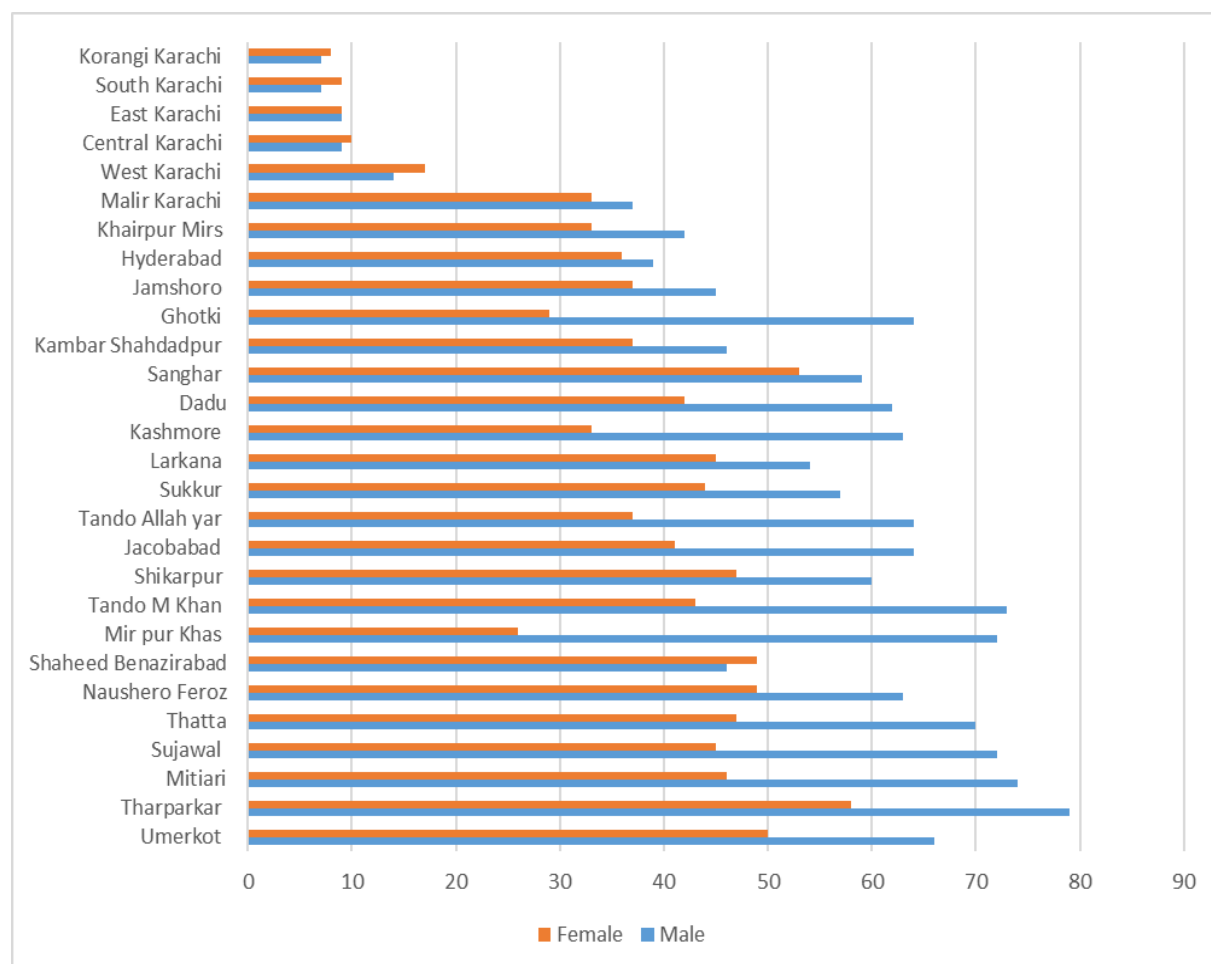
Source: SEMIS 2016-17

However, low GIRs need to be interpreted carefully. Firstly, the above data comes from SEMIS that only covers public sector schools. This means GIR values may be suppressed, especially in urban areas. In addition, data from PSLM 2013-14 shows that there is a tendency for children, especially girls to start school late. The highest participation is in the age ranges of 7 to 10. Historic data of PSLM also shows a higher NER for the age group 6 to 10 than the age group 5 to 9. The former is more reflective of the ground situation, therefore low GIR does not necessarily mean eventual low participation. The main risk of late school entry is that children abandon school too early. This is elaborated in more detail later in this chapter.

Gross and Net Enrolment Rates in Primary (ages 6 to 10)

Inter-provincial comparisons show that Sindh stands at number three in GER, after, Khyber Pakhtunkhwa and Punjab. This holds true for overall as well as for male and female values.

Table 8. Gross Enrolment Rate in Primary education, ages 6-10, 2014-15 (Percent)

Primary GER 6 to 10			
Region	Male	Female	Total
National	98	82	91
Punjab	103	92	98

Sindh	88	69	79
Khyber Pakhtunkhwa	103	80	92
Balochistan	89	54	73
Source: PSLM 2014-15			

Figure 11. Gross Enrolment Rate in Primary education by sex and geographical location, 2014-2015 (Percent)
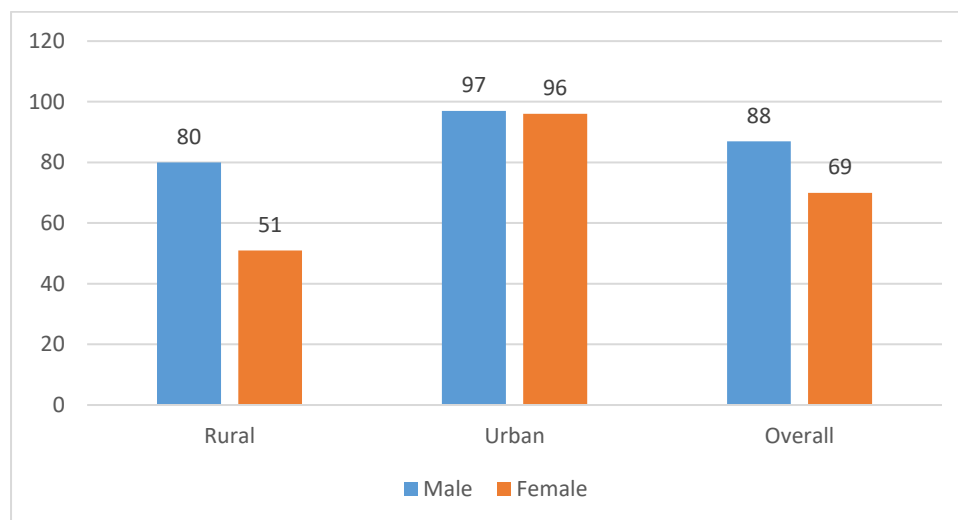
Source: PSLM, 2014-15

Figure 11 shows a significant difference in Primary GER between girls and boys and between urban and rural areas. Rural females have the lowest GER and urban males and females have higher values than rural males. Both urban male and female values approach 100 but there is a wide gap at rural levels. This shows major systemic inefficiency. If read with NER, given below, even urban numbers depict an inefficiency.

The interprovincial comparison of NER confirms the trend. The Net Enrolment Rate in Primary Education of 6 to 10 year-old children in Sindh stands at 61% in 2014-15: 67% for boys and 54% for girls. The values for Sindh exceed Balochistan only and are lower than the national average. It fares better than KP in case of female NER but given the much higher GER for girls for the latter it can be assumed that overall participation rate of girls is probably higher.

Table 9. Net Enrolment Rate in Primary education by province, ages 6-10, 2014-15 (Percent)

Primary NER 6-10			
Region	**Male**	**Female**	**Total**
National	72	62	67
Punjab	73	67	70
Sindh	67	54	61
Khyber Pakhtunkhwa	78	62	71
Balochistan	67	42	56
Source: PSLM 2014-15			

Table 10 below shows the enrolment rates' trend over almost ten years. It reflects an annual increase of less than 1% per annum. Rural and urban disparities remain significant, as the NER in urban areas

is 27 percentage points higher than NER in rural areas. Both urban boys and girls have higher values than rural boys. The trend continues at all levels of education. Rural girls emerge as the worst off in all indicators.

Table 10. Net Enrolment Rate in Primary education in Sindh, 2004 to 2014 (Percent)

	2004-5	2005-6	2006-7	2007-8	2008-9	2010-11	2011-12	2012-13	2013-14	2014-15
Overall	54	57	59	59	64	62	59	62	56	61
Male	60	62	65	64	69	68	65	67	62	67
Female	47	52	50	52	57	55	53	56	50	54
Rural Male	52	55	57	60	65	63	58	61	54	61
Rural Female	33	38	34	38	46	43	41	44	37	41
Urban Male	71	71	76	72	75	74	76	76	73	75
Urban Female	66	70	71	72	72	78	70	74	66	72

Source: PSLM 2004-05 to 2014-15

The improvement over the plan period (with the plan baseline taken in 2011-12 and with the limitation that data for PSLM is not available beyond 2014-15) of 2% can simply be seen as the normal trend and not an impact of Sector plan implementation. The objective of increasing access to this level of education at the right age has not been achieved. From a baseline value of 59% in 2011-12, Primary NER has only risen by two percentage points by 2014-15, missing the target of 77% set for the end of plan implementation.

In terms of equitable access, the situation has not improved significantly either. The Gender Parity Index on Primary GER, seen in Table 11, was expected to increase from 0.77 to 0.87, signifying higher relative access for girls. Though improving, this indicator grew to just 0.80. In terms of equity among districts, there has been no change in the gap of the Primary GER between the best and the worst performing district. The gap remains at 53%.

Table 11. Progress in achievement of SESP 2014-2018 KPI targets

Indicators	Baseline	Target	Latest	On/Off target
Primary Net Enrolment Rate (NER Age 6 – 10)	59%	77%	61 %	Off
Gender Parity Index (GPI) on Primary GER	0.77	0.87	0.80	Off
Primary GER gap between best/worst performing districts	53%	35%	53%	Off

As a whole, the number of students enrolled in primary classes in public schools has declined from 2,545,035 students in 2012 to 2,398,592 in 2016. However, these numbers may not necessarily reflect the actual participation of primary children in schools. Evidence in Sindh, already mentioned, clearly reveals that families admit children late. This means already there might be children of primary school

age who have not yet entered school but may do so soon. Secondly, the impact of private schools has not been captured. SEMIS does not cover private school enrolments so far.

The indicators of GIR, GER and NER have to be interpreted carefully. In Punjab, regular surveys on children enrolment show a higher participation rate at primary than the results evinced through NERs. Irrespective, a high number of children remain out of school either through not being admitted at all or having dropped out.

2.2.3 Post-primary Education

Gross enrolment rate at middle level declines and inter-provincial position of Sindh remains at number three. It is only 2 percentage points better than Balochistan.

Table 12. Gross Enrolment Rate in Middle education by province, ages 11-13, 2014-15 (Percent)

Middle GER 11 to 13			
Region	Male	Female	Total
National	68	56	62
Punjab	67	62	64
Sindh	61	48	65
Khyber Pakhtunkhwa	84	54	71
Balochistan	59	34	48
Source: PSLM 2014-15			

The trend in Middle NER is similar. Although the gaps with other provinces reduce at this level as the overall national figure declines to 37. For Sindh, the overall value for 2014-15 is 34. A drop of nearly 27 percentage points from the primary NER. In fact, for overall middle NER KP has the best figures followed by Punjab. Sindh remains at number three.

Table 13. Net Enrolment Rate in Middle education by province, ages 11-13, 2014-15 (Percent)

Middle NER 11 -13			
Region	Male	Female	Total
National	39	34	37
Punjab	39	38	38
Sindh	37	30	34
Khyber Pakhtunkhwa	48	31	41
Balochistan	31	19	26
Source: PSLM 2014-15			

Table 14 below gives NER for middle schools over a 10-year period. Again, rural girls present the lowest value of 14 and rural boys fare worse than urban girls. There has only been an improvement of 3 percentage points from 2004-05 to 2014-15.

Table 14. Net Enrolment Rate in Middle education, ages 11-13, 2004-2014 (percent)

	2004-5	2005-6	2006-7	2007-8	2008-9	2010-11	2011-12	2012-13	2013-14	2014-15
Overall	31	31	31	33	36	36	34	34	29	34
Male	35	32	35	37	41	39	39	39	32	37

Female	26	29	27	28	30	32	29	29	26	30
Rural Male	27	24	26	33	36	34	32	34	25	28
Rural Female	11	7	10	10	14	14	16	16	11	14
Urban Male	44	40	46	42	46	46	48	46	42	47
Urban Female	40	47	43	47	46	50	44	48	39	48

Source: PSLM 2004-05 to 2014-15

The ten-year trend appears even stickier in the case of middle enrolment with an improvement of only 3 percentage points over 10 years. The stickiness can be seen in all subsets. Similar to the trend at primary level, rural female fares the worst.

Matric GER declines further for the entire country with the national figure at 58. Sindh is again at number three with only the female value at number two, after Punjab. The average of 41 remains below the national average and those for Punjab and Khyber Pakhtunkhwa.

Table 15. Gross Enrolment Rate in Matric, ages 14-15, by province, 2014-15 (Percent)

Matric GER (14 -15)			
Region	**Male**	**Female**	**Total**
National	64	50	58
Punjab	68	58	53
Sindh	57	44	41
Khyber Pakhtunkhwa	69	38	55
Balochistan	50	21	39
Source: PSLM 2014-15			

Low matric NER shows an alarming picture for the entire country, including, Sindh. Punjab and KP are only slightly better than Sindh but again in case of female NER for matric the latter is two percentage points better than KP.

Table 16. Net Enrolment Rate in Matric, ages 14-15, by province, 2014-15 (Percent)

Matric NER 14-15			
Region	**Male**	**Female**	**Total**
National	29	24	27
Punjab	29	29	29
Sindh	29	20	25
Khyber Pakhtunkhwa	34	18	27
Balochistan	19	9	15
Source: PSLM 2014-15			

The 10% increase in enrolment at middle over the plan period does not seem to translate into a major improvement in middle NER. This may partially be due to the time lag between the NER reported by PSLM and the latest SEMIS data or may be a movement from private to public sector schools.

NER for secondary falls by another 9 percentage points (Table 17). The trend of rural female at the bottom followed by rural male continues for this indicator also. Also, both urban female at 33 and

rural male at 20 depict the situation in a generally low value indicator. A 7 percentage point increase can be seen from 2013-14. This may be a sampling error or may reflect the 20% increase in public sector enrolment seen in SEMIS.

Table 17. Net Enrolment Rate in Matric, ages 14-15, 2004-2014 (Percent)

	2004-5	2005-6	2006-7	2007-8	2008-9	2010-11	2011-12	2012-13	2013-14	2014-15
Overall	9	18	19	18	24	23	23	23	18	25
Male	23	20	21	19	26	26	24	24	23	29
Female	18	16	16	18	21	20	21	21	13	20
Rural Male	17	10	13	13	19	19	17	17	13	20
Rural Female	5	6	3	6	8	7	6	6	6	8
Urban Male	29	28	30	25	34	35	34	34	34	39
Urban Female	29	25	27	29	32	32	39	39	33	33

Source: PSLM, 2004-05 to 2014-15

Considering enrolment figures in public schools, it is clear that participation declines after primary grades, as has been described earlier in this chapter. Nevertheless, enrolment in middle education public schools increased 10% between 2012 and 2016; in secondary education rose by 20% during the same period, and the number of students in higher secondary public school grades grew 13% between 2012 and 2016. Reasons for the increase are not clear from the data as during this period hardly few schools were constructed, although there was some upgrading. In the absence of more detailed data and research, the causes cannot be listed.

Given the limitations of NER discussed earlier, an alternate approach to assess participation of children in schools is through Adjusted Net Attendance Rates. This section provides evidence on the net attendance rate of children aged 3 – 17 years by gender, level of education and across districts for the period 2010-11 to 2014-15. The data is obtained from PSLM 2010-11 and PSLM 2014-15 for this analysis. This section also discusses age-specific attendance rates in Sindh based on PSLM-HIES 2013-14 data.

Adjusted Net Attendance Rate

The adjusted net attendance rate (ANAR) can be employed to evaluate the percentage of children of an education level who are attending school at that level, or at higher level. The adjustment considers the fact that children of primary and lower secondary school may be attending other levels of education and ensures that these children are not counted as out-of-school children[44].

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[44] Primary ANAR is defined as number of children of primary school age (5 – 9 years) who are attending primary or secondary education divided by the number of children of primary school age. Likewise, lower secondary ANAR is defined as number of children of lower secondary school (10 – 12 years) who are attending lower or upper secondary education divided by the number of children of lower secondary school age.

According to PSLM data, in 2014-15, the percentage of children attending school from pre-primary to upper secondary in Sindh was only 54.9%, which is 8.2 percentage points lower than the average for Pakistan (63.1%). From 2010-11 and 2014-15, ANAR in Pakistan increased from 60% to 63.1% or by 3.1 percentage points while in the same period ANAR in Sindh increased from 53.6% to 54.9% or 1.3 percentage points. These results show that the increase in attendance rates in Sindh over the 2010-11 and 2014-15 period has been much slower than in other parts of Pakistan.

The gender dimension of access to education in Sindh over 2010-11 and 2014-15 raises concern. At 48%, the average net attendance rate of girls is quite low, in a context in which the average for the country is also low, at 57%. Only three districts present net attendance rates above this average: Karachi (77%), Dadu (60%), and Nowshero Feroze (59%). At the other extreme, in Ghotki, Tando Mohammad Khan, Kashmore and Sujawal, less than one in four girls attend school at their age level or higher.

Age Specific Attendance Rate

Data from PSLM-HIES 2013-14 on the age-specific attendance rate of children aged 3 – 17 years clearly shows that children in Sindh did not attend education levels at the intended ages during 2013-14 (see Figure 12). A sizeable proportion of overage attendance was noteworthy in each grade, which posed substantial risk of dropout. A high proportion of 5 to 7 year-old children attended pre-primary. Similarly, a proportion of children aged 11 to 17 years attended primary and 14 to 17 year-old children attended middle. Late entry appears to be a major reason behind overage attendance.

Figure 12 shows that attendance rates follow an inverted U-shaped pattern. The highest participation rate (lowest out-of-school rate) in Sindh occurs for the age group of 7 to 10 year-old. However, a substantial gender gap is observed in every age group where boys are much more likely than girls to attend school. School attendance rates are lower for girls than for boys throughout the basic education system, except at the pre-primary level, where 3-year-old girls outnumber 3-year-old boys (26.6% compared to 17.8%). The gender gap is insignificant when boys and girls enter pre-primary and primary school, but becomes visible beginning at the age of 7, and turns into an acute situation when girls enter lower secondary school. Girls are more likely than boys to discontinue studies when they switch from primary to lower secondary schools. However, this gap narrows after the age of 15.

Figure 12. School Participation by Age and Sex in Sindh, 2013-14
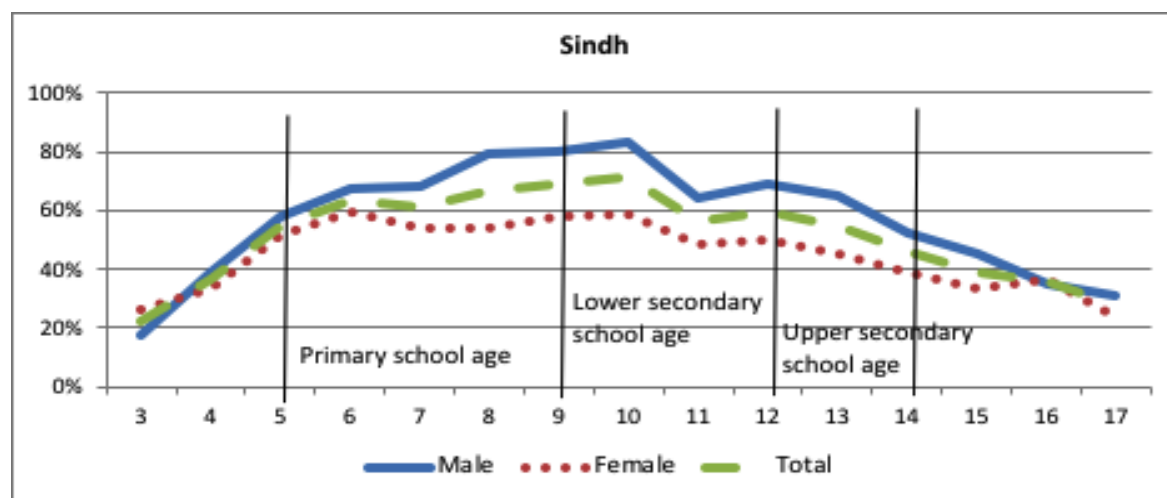
Source: PSLM-HIES 2013-14

Typically, in the first year of primary school, 57.9% of 5-year-old boys are in school compared to 51.4% of 5-year-old girls. During the first year of middle, 9-year-old boys are in school at a 79.8% rate, against 57.7% of girls. For the first year of secondary, 68.7% of 12-year-old boys attend school versus 50.1% girls. Lastly, 30.8% of 17-year-old boys attend as against 23.7% of girls of the same age.

2.2.4 School Progression: from Primary to Secondary

Figure 13 below shows the trend of student progression in schools in Sindh. There is a clear decline in enrolment from primary to middle and secondary[45].

Figure 13. School progression through Net Enrolment Rate trends in Primary and Secondary, 2014-15
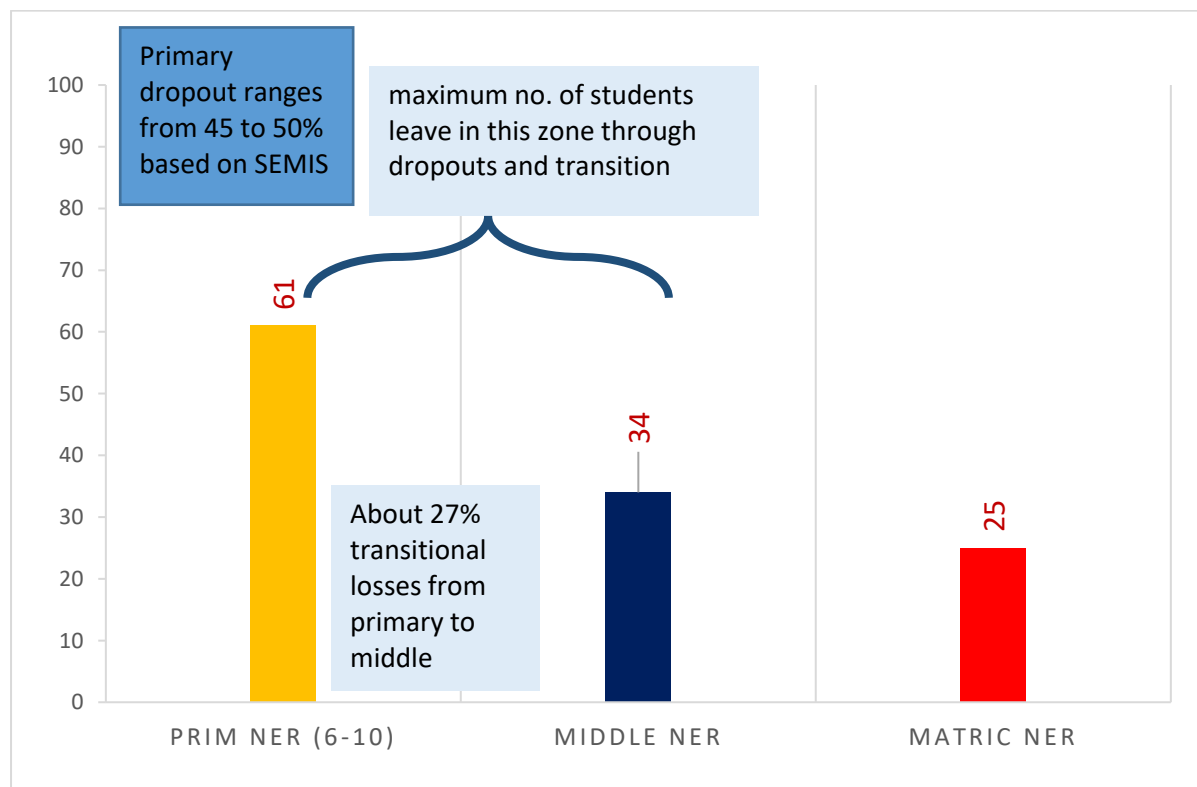
Source: PSLM 2014-15

As seen earlier, the trend has remained sticky over the last ten decades. The results are a product of two other important education indicators: dropouts and transition rates. The combined end result of the two adds to out of school children. The trends add to children who have already not joined schools or may never do so. The maximum loss of children is in the first eight years. As per SEMIS data for the last 5 years, dropouts at (public) primary education range from 45% to 50%; another 27% children leave the public education system on transition from primary to middle (a transit rate of 73% as per SEMIS). Maximum students leave in the primary and then in the transition to middle.

Dropouts

A substantial proportion of children already abandon the system in primary education, and within primary, between grades 1 and 2 at 20% for at least two of the three years measured[46]. For girls, the

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[45] NER has been used here as a proxy for enrolment trends. In the absence of universal enrolment, numbers that include public and private students this is the best available approximation.

[46] Dropout rates are computed for public schools only.

rate is even higher. For grades 1 to 2, it is 22% in 2013-14 and 25% for 2015-16. The trend of high rates of female dropouts continues at all levels (Table 18).

Table 18. Dropout Rates in public schools by class and sex, 2014-15 to 2016-17 (Percent)

Year	Class 1 to 2			2 to 3			3 to 4			4 to 5		
	M	F	Mix	M	F	Mix	M	F	Mix	M	F	Mix
2013-14	18.8	22	20	14.5	14	14.3	14.2	14.1	14.2	14.3	14	14.2
2014-16	12.3	14	13	11.5	10.3	11.1	11.7	10.9	11.4	20.9	25.2	22.7
2015-16	18.5	25	20.9	15.4	16	15.6	12.12	13.5	12.7	13.2	14.7	13.5

Source: SEMIS 2014-15 to 2016-17

Leaving schools before completing the full educational programme during primary and secondary levels of education continues to be a serious problem in Sindh. Maximum dropouts are at primary level and during the transition from primary to middle (Table 19).

Table 19. Cohort-wise Dropout Rates in public schools, 2010-2016 (Percent)

Year	Primary	Middle	Secondary
2010	59%	6%	9%
2011	61%	14%	11%
2012	55%	11%	7%
2013	57%	9%	9%
2014	54%	11%	10%
2015	58%	9%	6%
2016	50%	4%	8%

SEMIS various years

Some of the factors contributing to school dropout in Pakistan include low economic status of the parents, death of a parent, involvement in household chores, perceived low returns of education, especially, girls' education, and children's engagement in economic activities[47]. A study conducted in Kashmore district of Sindh found that lack of basic facilities such as proper infrastructure, drinking water, proper toilets, and electricity at public schools, unavailability of books and learning materials, and the parents' lack of interest in sending the children to schools, are major factors contributing to dropout in primary schools[48]. Many parents in this study mentioned the poor quality of learning as a reason to withdraw their children from school. The study also found that a number of children were not allowed to attend schools because of caste problems while a number of children dropped-out because they either had to work full time to earn a living or help their families in their work.

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[47] Khan, A. G., Azhar, M. & Shah, A. S. (July 2011). Causes of primary school dropout among rural girls in Pakistan Working Paper Series # 119, Sustainable Development Policy Institute (SDPI).

[48] Zarif, T. (2011). Reasons of High Dropout Rate of Students in Grades 5-6 at Public Schools of District Kashmore (Sindh-Pakistan) in 2010-11. *Journal of Research and Reflections in Education.* 6(2). 145-153. *http://www.ue.edu.pk/journal.asp*

Transition Rate

The Transition Rate is calculated as the number of students admitted to the first grade of a higher level of education in a given year, expressed as a percentage of the number of students enrolled in the final grade of the preceding level of education in the previous year. High transition rates indicate high access or transition from one level of education to the next. It also reflects the intake capacity of the next level of education. Inversely, low transition rates indicate problems in bridging between two cycles or levels of education, due to inadequate offer or admission capacity in the higher cycle or level of education, deficiencies in the examination system, or demand-side issues.

Effective Transition Rate (ETR) in public schools between primary and middle levels for Sindh is 73% (figure 14)[49]. On its own, the figure reads to as reasonably high, although it should be analysed along with dropouts. Nevertheless, with the exception of 2011-12 (which has not been added due to inconsistency, which may owe to data problems), there has been a gradual improvement in transition rates from primary to the next level. This is an encouraging trend, since it represents an increase of 23.7% for boys and 14% for girls.

Figure 14. Transition rate of Primary to Middle education by sex, 2010-11 to 2016-17 (Percent)
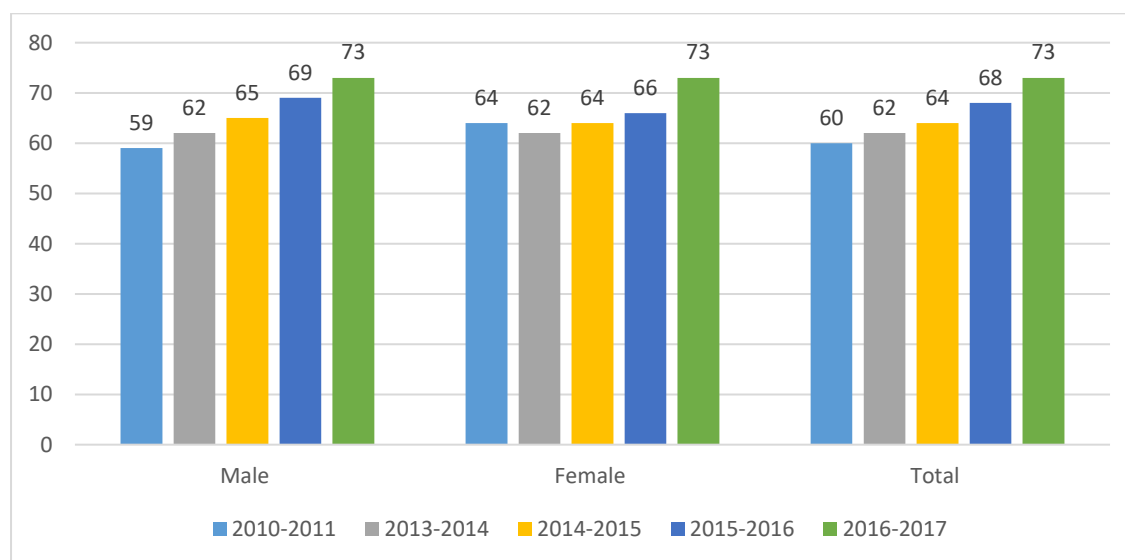
Source: Pakistan Education Statistics 2016-2017

For those children that remain in the system long enough to reach the last grade of middle, the transition to secondary appears to be more successful. As can be seen in Figure 15, transition rates from middle to secondary among boys have been at maximum (100%) level since 2013-14, and that for girls has reached 98% in 2016-17[50].

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[49] Transition rates are computed for public schools only
[50] 2011-12 has not been added again due to data inconsistency

Figure 15. Transition rate of Middle to Secondary education by sex, 2010-11 to 2016-17 (Percent)
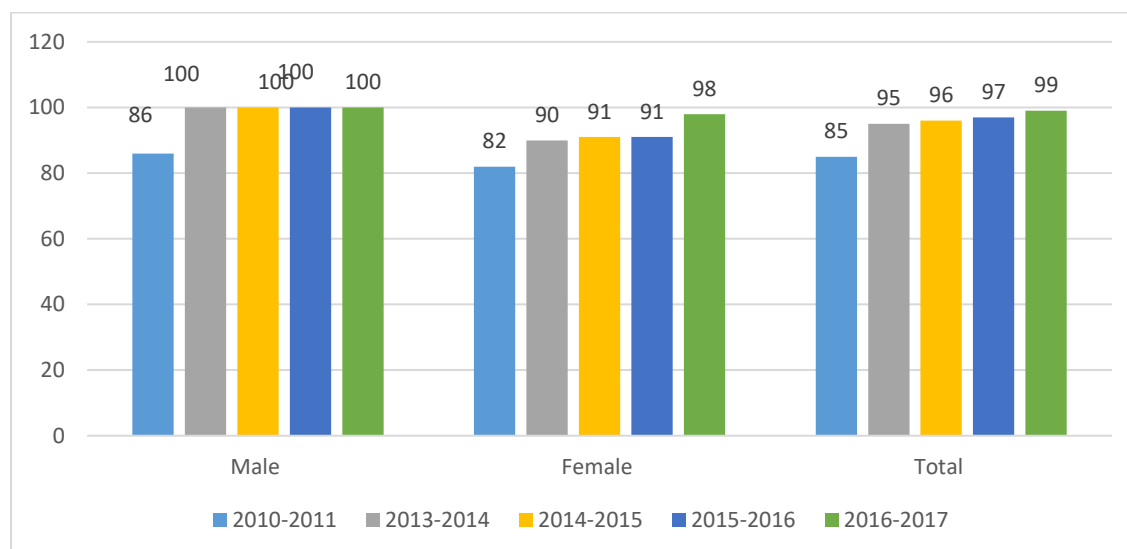
Source: Pakistan Education Statistics 2016-2017

There is some anecdotal evidence that some children transfer from private to public schools at secondary levels. One reason is that all schools that want their children to appear in the external examinations of the Board of Intermediate and Secondary Education need to be registered with the concerned board. Many private schools are not registered.

High student absenteeism

Sindh's Directorate General of Monitoring and Evaluation has been operational for the last two years. While the monitoring is primarily focused on teacher absenteeism, the Directorate also has documented high levels of student absenteeism during its work. Table 20 below shows the situation of three months August, September, and October of 2018.

Table 20. Student absenteeism for August to October 2018

District Name	August	September	October
Badin	56%	60%	75%
Dadu	39%	32%	34%
Ghotki	52%	47%	50%
Hyderabad	40%	47%	57%
Jacobabad	36%	32%	44%
Jamshoro	31%	64%	73%
Kambar	62%	61%	86%
Karachi Central	37%	30%	53%
Karachi East	42%	44%	77%
Karachi Korangi	60%	36%	54%
Karachi Malir	50%	52%	77%
Karachi South	32%	55%	83%
Karachi West	46%	42%	53%
Kashmore	50%	44%	54%
Khairpur	51%	85%	85%

Larkana	49%	43%	52%
Matiari	44%	53%	79%
Mirpurkhas	38%	42%	62%
Naushero F	39%	43%	48%
Sajawal	50%	52%	109%
Sanghar	45%	54%	69%
SBA	52%	50%	53%
Shikarpur	55%	39%	41%
Sukkur	30%	48%	46%
Tando Allahyar	40%	49%	49%
T.M. Khan	50%	73%	94%
Tharparkar	56%	62%	68%
Thatta	55%	48%	48%
Umerkot	54%	84%	84%
Overall	**46%**	**50%**	**60%**

On average, presence of students varies from 40 to 46% overall in August 2018 to 60% in October 2018 in a month. There seems to be an improvement, probably, due to work of DG M&E.

The area of student absenteeism in Sindh has been poorly researched. Intuitively, factors would include low motivation to attend school due to perceptions of poor quality, corporal punishment and work at home. Typically, expectations of absenteeism increase in rural areas during harvest season. However, the pattern that has emerged from the work of DG M&E reveals it as an endemic problem prevalent throughout the year. Absenteeism has to be factored into real presence in school as, clearly, enrolment numbers do not depict the exact situation.

2.3   Special Education

Special education has, arguably, been the most neglected area of education in Pakistan. Sindh has not been an exception. This is the case, despite being part of international commitments and recommendations in various national policies.

Absence of a regular census has prevented our ability to capture the prevalence of disability and special needs. On the basis of extrapolation of 1998 census data, in 2012 an Islamabad based organization Helping Hand for Relief and Development reported 5.035 million citizens (58.4% male and 41.6% female) as Persons with Disabilities (PWDs). The same estimates also revealed that 43.4% of total PWD population were children below the age of 15 years. It was then estimated that around 1.4 million (28.9% of total number of PWDs) were children of school going age who did not have access to education.

The prevalence of disabilities in Sindh according to the same study was significant, with a share of 28.4% of total PWDs. It was also reported that the majority of PWDs (60.2%) in Sindh resided in urban areas while 39.8% lived in rural areas. Figure 16 below depicts district wise PWDs population in Sindh.

Figure 16. Rate of Persons with Disability in Sindh by district, circa 2012 (Percent)
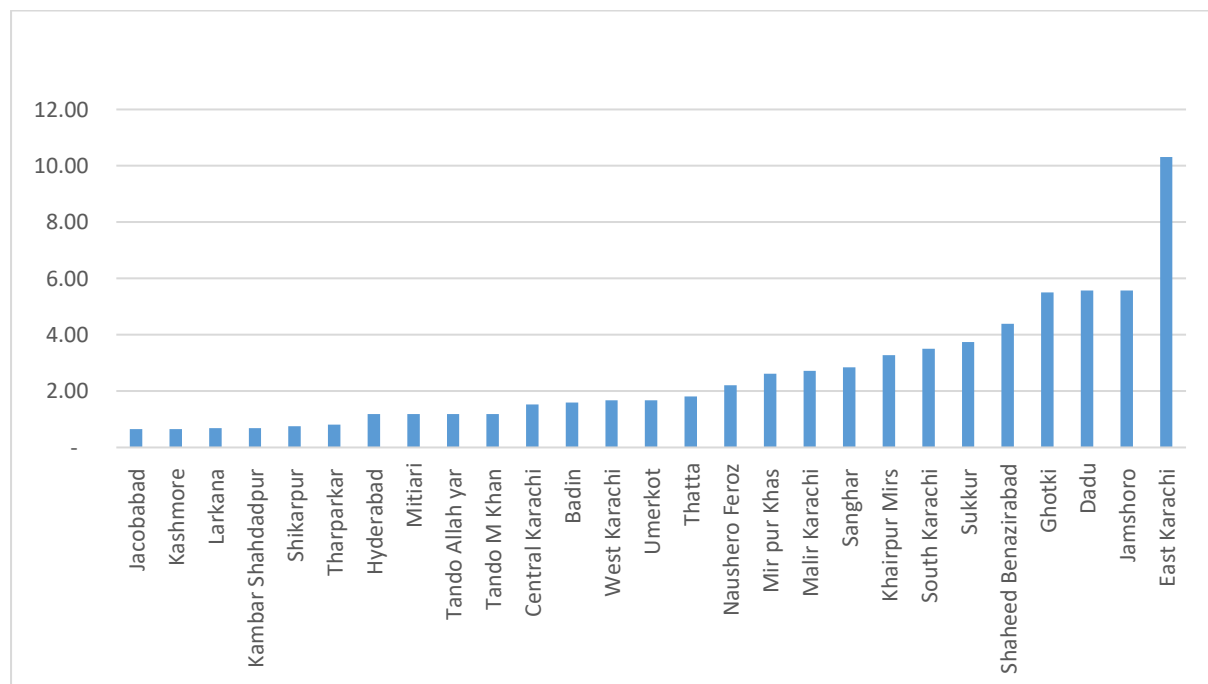
Source: Persons with Disabilities (PWDs) Statistics in Pakistan, 2012

The Sindh Education Sector Plan 2014-2018 did not delve into the subject of special educational needs of children with disabilities. Since the launch of SESP, many national and international developments have unfolded which have serious implication for inclusive approach. One such change is international communities' commitment around achieving broad ranging, inclusive and all-encompassing sustainable development goals. In May 2018, the Sindh Assembly passed the "Sindh Empowerment of Persons with Disabilities Bill" which legally binds the provincial government to ensure that all educational institutions funded or recognized by it provide inclusive education to children with disabilities. It has also warranted regular assessment for identifying school-going children with disabilities to be followed by the necessary program to meet these children's special needs in educational institutions. "No person will be deprived of their personal liberty only on the ground of disabilities," the law reads, adding that the government will take all necessary legal and administrative steps, including appropriate changes in existing laws, to ensure that persons with disabilities enjoy the right of equality guaranteed under the Constitution.

Unfortunately, there are about 50 specialized institutions for children with serious disabilities. Also, concepts of inclusive education are not practiced in schools, except in the case of some high-end private schools. Even curriculum and learning material has not been aligned with the needs for inclusive education.

2.4   Low Participation in Education: Some of its Causes

Education functions as an integrated system. Many causes of low participation flow from issues of quality and governance. However, those causes are discussed in the respective chapters. There are also socio-cultural and socio-economic causes that can be termed as demand-side issues. The issues discussed in this section refer mostly to the supply-side and are more directly under immediate control of the SELD. Some of the barriers related to the demand-side are discussed in the chapter of Out of School Children. Here only issues that have a more immediate bearing on access and participation are discussed. These can be removed mostly by expenditure on brick and mortar or bringing in changes in behaviour. These do not address core learning issues and organizational and governance matters as well as demand side factors.

2.4.1 Multi-grade Teaching

85% of primary schools are either two rooms or less (Table 21). This includes single room schools (38%) and shelter less schools (13%). This not only reduces space for children but also creates issues of quality. Despite the existence of multi-grade situations all over the province, teachers have not been trained in management of multi-grade classrooms. Similarly, textbooks, as the primary and only learning material available, are not prepared with multi-grade classrooms in view. This impacts quality of teaching and learning and has been discussed in greater detail in Chapter 4. However, there are indications of the same resulting in dropouts.

Table 21. Room availability in schools, 2016-17

	Shelter less	One	Two	Three	Four	Five
Primary	13%	38%	34%	5%	3%	3%
Middle	4%	10%	11%	23%	18%	9%
Secondary	0%	0%	1%	3%	5%	22%

Source: SEMIS 2016-17

Even at the middle level, 25% schools are two rooms and below and another 23% have just three rooms. At the secondary level, the situation improves but with an overall low availability of schools.

The two tables (22 and 23) below show the number of teachers available per schools at primary level as well as all schools combined.

Table 22: Number of teachers per school, 2016-17

	0	1	2	3	4	5 or more	Total Schools
Primary	3,068	17410	8128	3450	1769	4307	38,132
All Schools	3,153	17701	8411	3726	2055	7337	42,383

Source: SEMIS 2016-17

Almost 75% of primary schools have 2 teachers or less. Nearly 50% have only a single teacher. This does not create an environment conducive to learning.

Table 23. Teachers per school, 2016-17 (Percent)

	0	1	2	3	4	5 or more	Total Schools
Primary	8%	46%	21%	9%	5%	11%	100%
All Schools	7%	42%	20%	9%	5%	17%	100%

Source: SEMIS 2016-17

2.4.2 School Availability

One explanation for decreasing enrolment in later schooling years is the shortage of middle and secondary schools to meet the needs of girls and boys graduating from primary schools every year (Ashraf, 2016).

The province has 42,383 public sector schools (viable) of which 2241 are elementary/middle, 1719 secondary and 291 higher secondary educational institutes. An overwhelming majority of institutes are primary schools (38,132). Most schools are co-educational, but their proportion declines with the education level. The lack of education institutions available at higher levels creates a bottleneck for students trying to advance to the next level.

2.4.3 Missing Facilities

Facilities also play a major role in continued presence of the child at school. The situation continues to be stark and not much seems to have been achieved during the plan period. Table 24 below shows the situation for primary schools while Table 25 shows the situation for all schools.

Table 24. Facilities in Primary schools, 2016-17

	Boundary wall	Electricity	Washroom	Drinking Water
Available	59%	42%	61%	55%
Required	41%	58%	39%	45%

Source: SEMIS

Almost 40% primary schools are without boundary walls, washrooms and drinking water. The problem continues with schools beyond primary also. In terms of percentages, figures do not change by much when all schools are considered as seen below (Table 25).

Table 25. Facilities in all schools, 2016-17

	Electricity	Washroom	Drinking Water	Boundary Wall
Available	45%	63%	57%	61%
Required	55%	37%	43%	39%

Source: SEMIS

In terms of gender-wise facilities in primary schools the two most important structures are boundary walls and washrooms. Girls' schools have relatively better availability of these facilities but they are not enough. About 29% of girls' primary schools do not have boundary walls and 36% are without washrooms (see Table 26). In case of mixed schools, the situation of availability worsens.

Table 26. Facilities in Primary schools by type of school, 2016-17

Boundary Wall	Boys	Girls	Mixed
Available	54%	71%	58%
Required	46%	29%	42%
Electricity	**Boys**	**Girls**	**Mixed**
Available	34%	45%	43%
Required	66%	55%	57%
Washroom	**Boys**	**Girls**	**Mixed**
Available	51%	64%	62%
Required	49%	36%	38%
Drinking Water	**Boys**	**Girls**	**Mixed**
Available	46%	52%	57%
Required	54%	48%	43%

Source: SEMIS

Drinking water availability is also low. There have also been concerns on about the quality of water for human consumption.

2.4.4 Corporal Punishment

According to the Society for the Protection of the Rights of the Child (SPARC), a non-governmental organisation (NGO) advocating the rights of children, 35,000 high school pupils in Pakistan drop out of the education system each year due to corporal punishment.

Corporal punishment has deleterious implications for child's physical and psychological health. The Sindh Assembly passed the Sindh Prohibition of Corporal Punishment Act, 2016 in response to the practice of corporal punishment. While the enactment of a law was necessary, it may not be enough. A majority of teachers consider corporal punishment as a tool for "controlling" and teaching students. Many of the managers at the district level and even above have been teachers and may have used the option themselves. Corporal punishment is also prevalent in homes. In such an environment simple punitive measures may not work. In Punjab where the practice has been banned for over a decade it is far from eliminated.

Box 3. The Scourge of Child Sexual Abuse

In Sindh (and in other parts of Pakistan) an area not recognized as a problem in schools is child sexual abuse. Again, structured research on the problem is very limited. A study by SAHIL, a non-government organization that works on child sexual abuse, for the period 2007-11 revealed a total 152 teachers in the category of offenders and in bounded spaces there were 145 cases where the incidence was in schools (Trends in Reported Cases of Child Sexual Abuse: A five-year analysis 2007-11; by SAHIL). This has to be read with the comprehension that reporting of these cases is very low. The incidence may be much higher and there is a lot of anecdotal evidence in the field to support the assertion. There have been efforts to use education as a medium to prepare the child against the action. Recently Sindh has committed to a policy of using education for the purpose. However, there is very little, if any, official recognition of the problem in schools. In the absence of research and recognition there is no official policy on prevention of the acts in schools where children remain very vulnerable. In places with high incidence of corporal punishment the vulnerability would increase.

2.5   Non-Formal Education

In a situation of high illiteracy and out of school children, a robust and effective non-formal education can help reduce out of school children. Unfortunately, this has been a very weak link. While there has been an effort to improve capacity and effectiveness of NFE in the province in the last three years, the impact on ground has been minimal so far.

In practice, all NFE services combined, enrol about 321,000 learners. The National Commission for Human Development (NCHD) is the largest Non-Formal Basic Education organization with 2300 centres, followed by Basic Education Community Schools (BECS) with 634 centres. Sindh Reading Project –USAID, DLNF Sindh and Pakistan Fisher Folk Forum, also have over 100 NFE centres in the province[51]. Overall, according to NFEMIS' information, there are a total of 1500 NFE centres currently functioning in Sindh[52]. A total 638 centres are providing literacy programmes for women while 862 centres are currently catering for men's literacy needs.

The various programmes enrolled a total of 321,464 men and women in 2016-17, an increase of 13.5% with respect to the previous year. Most of this increase came from women learners, as their enrolment grew by almost 30%.

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[51] Sindh Reading Project have handed over the NFE centres to Directorate of Literacy and Non-formal Education.
[52] A management information system for non-formal education is currently being developed with the technical support from the Japan International Cooperation Agency (JICA) and is expected to provide more accurate information in future. The data given here pertains to 2018

Figure 17. Enrolment in NFE programmes in Sindh by sex, 2015-16 and 2016-17 (number of persons)
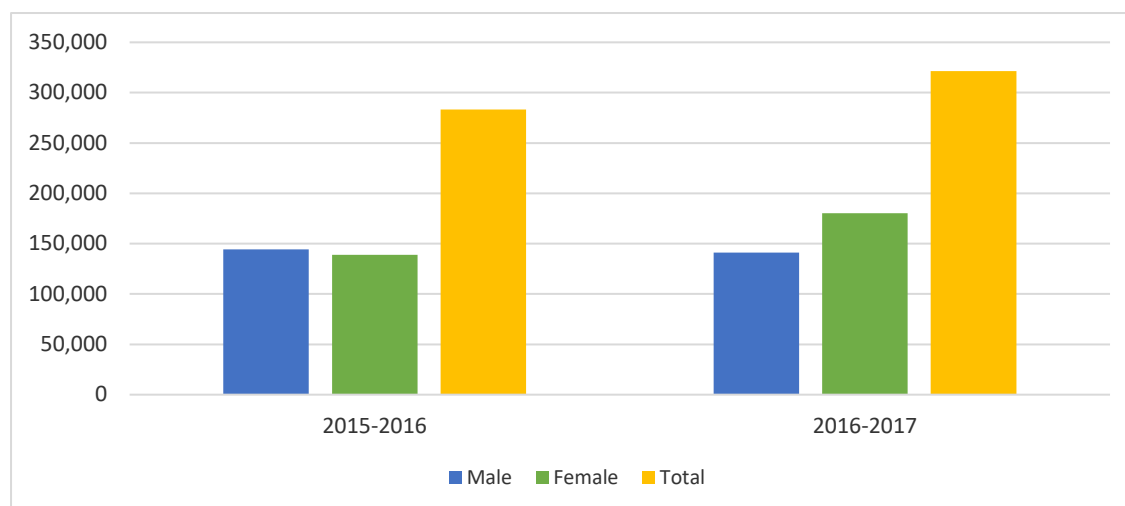
Source: Non-Formal Education Management Information System (NFEMIS)

The program includes learners from various age categories. Over half of learners are young children, from 5 to 10 years old (see Figure 18 below). The second highest category of learners is comprised of children in the age group 10 to 15 years, which accounts for a bit over one-third of total enrolments. Adult learners constitute about 8% of total enrolled.

Figure 18. Distribution of Enrolment in NFE programmes in Sindh by age group, 2016-17 (Percent)
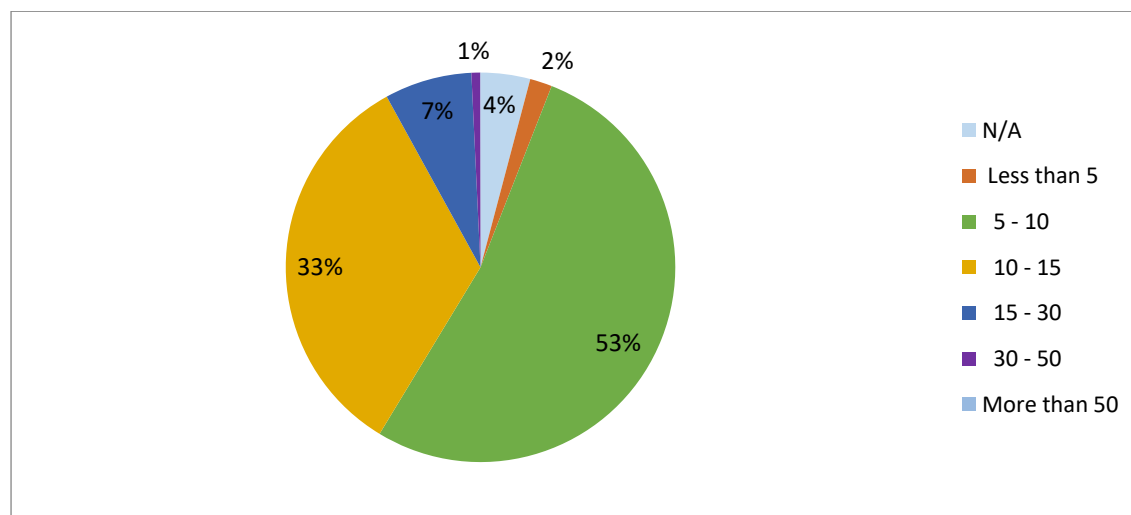
Source: Non Formal Education Management Information System (NFEMIS)

These numbers and the distribution among age groups clearly show the deficit. Even the most conservative estimates of out of school children for ages 5 to 16 give a figure of 6.4 million.

SESP 2014-2018 Targets for Non-Formal Basic Education and Adult Literacy Programmes

SESP 2014-2018 set out the following objectives for Non-Formal Basic Education (NFBE) and Adult Literacy Programmes (ALP) over the five years:

Table 27. SESP 2014-2018 Targets and achievement in Non-Formal Education

Targets	Achievements
Develop a comprehensive policy for NFBE and ALP and explore innovative methods and strategies to reach the wider public, in particular women in rural Sindh, followed by the allocation of mainstreamed budget on a regular basis.	Non-formal basic education and literacy policy has been developed followed by its action plan.
Improve access to literacy and non-formal education especially for girls in rural areas.	In order to improve access to literacy and non-formal education, in the last year (2016-17) nearly 700 NFBE centres were established, whereas the SESP target was 2000. Similarly, 1500 AL centres were planned, but this target was not met.
Improve the quality and relevance of learning through curriculum and learning materials development.	To improve quality, Non-formal and literacy department in collaboration with JICA, UNICEF, and USAID has developed a curriculum for non-formal basic education as packages A, B and C covering different timeframes for course completion, designed a monitoring and evaluation mechanism, and put in place an assessment accreditation system.
Build the capacity of literacy and NFE teachers to contribute to improved learning outcomes on a continuous basis.	To improve student learning outcomes, teacher capacity building initiatives have started, and NFE Professional development manual has been approved. NFBE teachers are now receiving continuous in-service training while newly appointed teachers have participated in NFBE's induction training programme.
Use innovative, technology-based approaches for NFE, in partnership with the private sector.	
Develop an accreditation and certification mechanism for mainstreaming students from ALP and NFBE program into the formal education system.	Standard of teaching learning outcomes for teachers and learners have been developed.
Strengthen the management capacity of DL&NFBE in developing, implementing, monitoring, and evaluating standards for processes and outcomes.	Management Information System for NFE has been introduced to monitor and supervise Non-formal education centres; committees have been formulated for teacher education; and curriculum development and community mobilization have been strengthened.

In addition to above achievements the following steps are in the pipeline:

- An accreditation assessment has been approved and notified for equivalency and mainstreaming. JICA and Sindh technical education will provide technical support to get skills-based education to learners of NFE centres after primary education.

- Standards for adult literacy have been developed and ALP curriculum is under preparation.

- Coordination with other departments such as Labour and Human Resources, Women Development, and Social Welfare Departments has been initiated. A discussion with Sindh Technical Education and Vocational Training Authority is to be initiated.

Sindh Education Sector Plan 2014-18 set a target of 2000 NFE centres and 1400 adult literacy centres. These could not be achieved. The primary problem lies in the capacity of the Directorate of Literacy and Non-formal Education, which include limited financial resources provided to the Directorate. The Directorate continues on the same structure as designed in 2000. It needs serious review as a structure, as well as the capacity requirements of its human resource. There is a need for clarity on its role in reduction of out of school children and enhancement of literacy. The Sindh Non-formal Education Policy 2017 clarifies its role as an extension of the directorates responsible for formal schools. It cannot have standalone goals. While the Sindh NFE Policy mentions this, there have been no formal discussions on review of its role and consequent capacity needs. DEO literacy have been provided in a number of districts but again it is not clear whether the role fulfils the need or not and also if one DEO Literacy is adequate.

After many years, the Directorate has begun running some centres but these do not differ from the standard models employed in Pakistan over almost three decades. Single room multi-grade and multi-age centre with the teacher and space provided by the community. The results of these models have not been documented well but there is enough anecdotal evidence to suggest that not many children have benefited from it.

Irrespective of the effectiveness of the model, the handful of centres opened so far fail to meet the needs. The funds for these centres are provided from the development budget. Practically, functionality becomes dependent on timely release of funds. In case of development budget, releases have not been regular and sometimes these centres have to stop operations in the middle of the year. Unless the work of NFE Directorate can be brought on recurrent budgets, sustainability of these centres will be at a high risk.

The NFE Policy encourages public private partnerships in delivery of NFE but even here success will depend on serious improvements in the capacity of the Directorate and re-design of the delivery model.

Capacity of Directorate of Literacy and Non-formal Education is not the only gap. Like any learning system, the NFE stream requires a strong support structure for curriculum, learning material development, assessments and trainings. Over the years, NFE has been delivered in project mode. Most of the requirements of the projects were met within the bounds of the project design. Resultantly, organisations responsible for these activities, like the Sindh Textbook Board and the Directorate of Curriculum, Assessment and Research, have been rarely involved. These currently have neither the structures nor the capacity to support ongoing work in NFE. While these organizations were involved in development of some of the products in the last two years, the primary impetus came from JICA. In the absence of this support, the capacity remains suspect and needs to be reviewed if NFE has to become a regular and robust feature of Sindh's education scene.

2.6   Conclusion

The situation of access and participation of children in schools in Sindh has marginally improved in the plan period for the current SESP. Investments critical to successful implementation in terms of schools and efforts to bring more girls into schools have been less than required. Missing facilities situation remains stark and the gap between primary and middle schools and institutions for boys and girls continues. While output and impact has been low, some intermediate efforts have been taken. These include development of policies (ECE and NFE), training of teachers in ECE and some recruitment. Even here, the targeted numbers have not been achieved as even the costing has not been completed.

Areas not adequately covered in SESP were inclusive education, corporal punishment and child's preparedness for school in terms of social and physical health. With nearly half of children under age five being stunted, early childhood care and education cannot be ignored. The latter has relevance both to quality and also participation. Also, the area of student absenteeism has emerged as major concern since the work of DG M&E started about two years ago.

Chapter 3. Out-of-School Children

Key Findings:

- Sindh has a large out-of-school population, which increased over time, and a larger share of girls:

 - Sindh has an estimated 6.4 to 6.75 million out of school children from primary to secondary age. The range comes from three different sources that have estimated the numbers.

 - Girls have a larger share in OOSC as well as among children at risk of dropping out.

 - There has been a significant increase in the number of primary-age out-of-school children in Sindh over the six years covered, going up from 1.87 million (39.9%) in 2007-08 to 2.57 million (42.1%) in 2013-14.

- Access itself, rather than dropout, is still a major issue for 54% of out-of-school children:

 - In total 54% out of school children are expected to never enter primary school. In addition, those that will eventually go to school tend to be over-age, which in itself increases the risk of dropping out later on. Girls are more likely to never enter primary school (63%) than boys.

 - The number and proportion of middle school-age children who are out of school increased from 0.77 million or 36.9% in 2007-08 to 1.13 million or 39.2% in 2013-14.

 - 77% of middle school-age out-of-school children are expected to never enter middle school; girls are a more common category to never enter middle school (80%). This means that 39% of all girls of middle-school age are expected to never enter school.

 - 34% of new entrants drop out before reaching the last grade of primary education, though survival rates have improved slightly. Girls in primary education have higher expected dropout rate from school than boys (36% compared with 32%).

 - The survival rate to the last grade is better at the middle level and has gradually increased from 92% in 2010 to 94% in 2013 reaching to 96% in 2015. From 2010 to 2012, there was no gender disparity in male and female survival rates (GPI ranged below 1.03), however, in more recent years, gender disparity has moved in favour of girls, as GPI has exceeded 1.03

 - From 66% who entered primary, only 38% of children had completed middle education. These rates are much lower than the national average suggesting that the educational system in Sindh may be suffering from major bottlenecks, which needs to be addressed.

Introduction

The chapter is an extension of the discussion on access and participation from the previous one and has been structured in three sections. The first section examines trends in out-of-school children along five dimensions of exclusion, detailing the barriers and bottlenecks of attendance. The second section examines equity in access to education along the same five dimensions of exclusion, and disparities across provinces. The final section offers concluding remarks.

The analysis uses the conceptual framework developed by UNICEF-UNESCO Institute for Statistics (UIS) to generate the profiles of out-of-school children (UNICEF-UIS, 2015). Under this framework, out-of-school children (OOSC) are classified into two groups: (1) children who entered school in the past, but dropped out; and (2) children who have never entered school. The second category can be subdivided into (i) children who will enter school soon, and (ii) children who will never enter school (UNICEF-UIS, 2015). The relative magnitude of these three mutually exclusive categories of children varies across countries.

The Five-Dimensions of Exclusion model has been applied to analyse the problem of OOSC. This approach examines five categories of children divided into three levels of education (pre-primary, primary and middle) and two population groups (children who are out of school, and those who are in school but at risk of dropping out). Each group represents a distinct dimension of exclusion. In the context of Pakistan, the age-groups for the Five-Dimensions of Exclusion are adapted from the National Education Management Information System's *Pakistan Education Statistics 2015-16* (NEMIS, 2017). In addition, the chapter analyses school attendance of secondary and higher secondary age youth by various characteristics.

Box 4. Five-Dimensions of Exclusion

Dimension 1: Children of pre-primary school age who are not in pre-primary or primary school. This comprises children aged 3-4 years.

Dimension 2: Children of primary school age who are not in primary or middle school. This dimension covers children aged 5–9 years, with five years being the official age for entry to primary school.

Dimension 3: Children of middle school age who are not in primary or secondary school. This includes children aged 10–12 years for middle education.

Dimension 4: Children who are in primary school but at risk of dropping out.

Dimension 5: Children who are in middle school but at risk of dropping out.

A key feature of the UNICEF-UIS framework is to identify disparities that cut across each of the Five-Dimensions of Exclusion, which help in developing complex profiles of children within each dimension. Its purpose is also to systematically disaggregate numbers and categories of OOSC by a range of individual, household and group characteristics that are linked to marginalization and inequality in access to education, e.g., gender, location, wealth and ethnicity. Such disaggregation is crucial since it determines, in many ways, the positioning of children across the Five-Dimensions of Exclusion as well as the movement of children within and between them.

The Five-Dimensions of Exclusion model stresses the importance of the life cycle approach of effectively linking the provision of education to children with different developmental needs at various stages in life. Primary education alone is insufficient to ensure that children are equipped with the skills and knowledge necessary for their own development and to build societies and economies. Addressing the whole life cycle of children's education needs, including the transitions between the basic levels of education, is necessary to successfully reach the goal of basic education, i.e., primary, middle and secondary. This methodology has a strength in drawing attention to the various patterns and forms of exposure to schooling of out-of-school children. This focus has key implications for an improved targeting, and for accounting, strengthening and developing policies and strategies that provide for multiple and alternative pathways to education and learning.

Measuring Out of School Children[53]

Low primary GIR, high dropouts and losses during transitions has resulted into a large number of children age 5 to 16 years being out of school. There have been various estimates of the number which indicate the problem but exact figures remain elusive. Three sources are being used here to clarify the general state of affair and also to present the state of data (see Table 28). There is a definite need for more accuracy. The three sources used are:

1. Pakistan Social and Living Measurement Survey-HIES 2013-14
2. Sindh: Wins, Losses and Challenges for 2018-23[54]
3. Pakistan Education Statistics 2016-17

Interestingly the total figure does not vary by much but the distribution in the case of PSLM deviates substantively from the other two sources.

Table 28. Estimates for Out of School Children (in millions)

	PSLM 2013-14	Alif Ailaan 2018[55]	PES 2016-17
Primary	2.6	1.87	1.65
Middle	1.13	4.8	1.94
Secondary	0.97		1.35
Higher Secondary	2.05		1.47
Total	6.75	6.67	6.41

PSLM estimates 2.6 million out of school children at primary level. Alif Ailaan and PES estimate the figures at 1.87 and 1.65 million respectively. Alif Ailaan does not break up beyond age 9 and gives

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[53] A detailed analysis of out of school children is provided in a separate chapter. This section intends to introduce the issue and the challenges of obtaining an accurate estimation of the phenomenon.

[54] Alif Ailaan 2018. 2013-2018 Five Years of Education Reforms. Wins, Losses and challenges for 2018-2023. Islamabad: Alif Ailaan. vi-42 pp.

[55] Alif Ailaan report does not provide a break up of middle, secondary and higher secondary.

consolidated figure of 4.8 million for ages 10-16. Equivalent in case of PSLM comes to 4.15 and PES estimates the cohort at 4.76. Again, Alif Ailaan and PES are closer.

All three figures come from estimates relying on different methodologies. However, in case of PSLM 2013-14 a higher figure for primary than middle, secondary and higher secondary appears to be counterintuitive. All current and historical data, seen above, reveal lower GERs and NERs for middle and secondary and also by grade 9 the enrolment figure stabilizes as most of the dropouts take place in earlier grades.

Irrespective of the differences in the above details Sindh faces a crisis of out of school children that needs to be addressed. All three sources agree on over 6 million out of school children in the province. For the rest of the chapter PSLM-HIES data has been used for analysis.

For the rest of the chapter various editions of PSLM have been used. For background on the chapter methodology and limitations, see Annex 1.

3.1 Trends in Out of School Children

This section provides a detailed account of the trends in out-of-school children in Sindh based on the Five Dimensions of Exclusion framework described earlier. It also provides evidence on out of school status of secondary and higher secondary age youth by level of education, as well as the dynamics of education trajectories measured by education pathways for youth in Sindh.

Very high numbers of children are out of school in Pakistan, and particularly in Sindh. The highest rates of out-of-school children in primary and middle education are in in Balochistan and Sindh provinces; relatively lower rates are observed in Khyber Pakhtunkhwa and Punjab provinces.

Figure 19 shows education levels where most out-of-school children live in Punjab and Sindh. Out of a combined total of 7.5 million primary-age out-of-school children across all the four provinces, 3.1 million children live in Punjab, 2.6 million in Sindh, 1.1 million in Khyber Pakhtunkhwa and 0.76 million in Balochistan. An estimated 3.38 million middle school-age children are also out-of-school; of this, 1.53 million are from Punjab, and 1.13 million from Sindh.

Figure 19. Number of out-of-school children in Pakistan by province, 2013-14
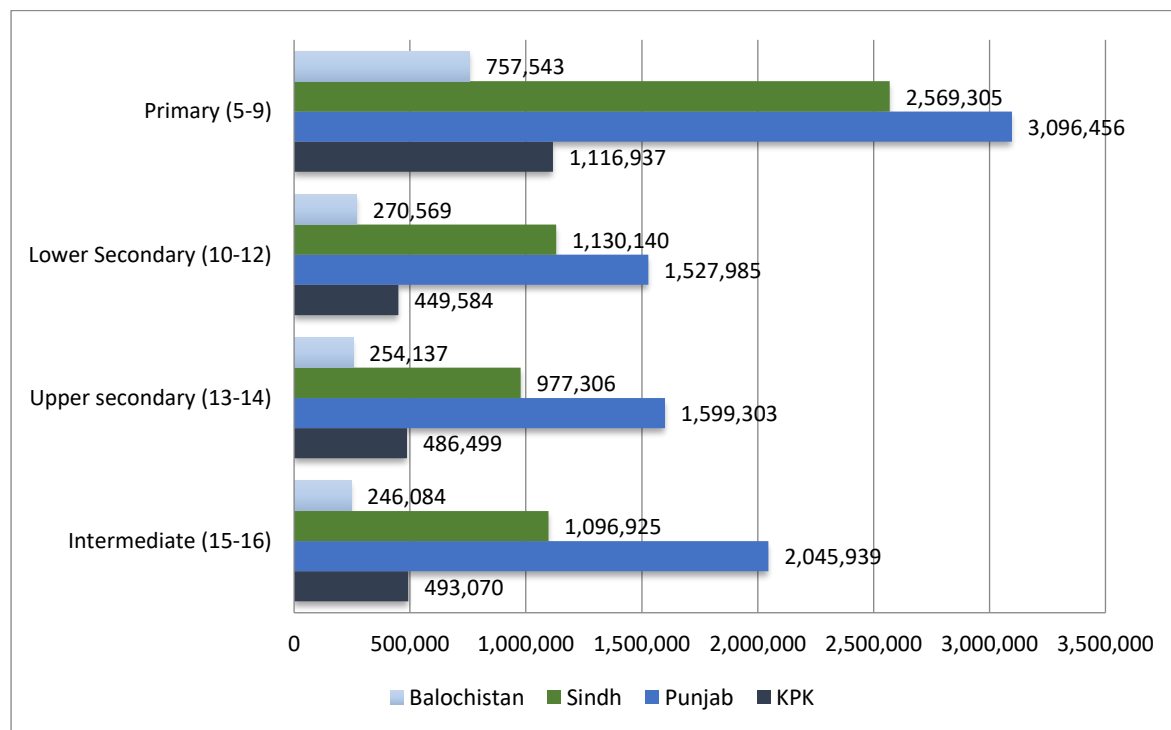
Source: Computed from PSLM-HIES 2013-14

The Five Dimensions of Exclusion are summarized in a table in Section 4.7 along with attendance rates for each.

3.1.1 Dimension 1: Pre-primary School Age Children Not in Pre-primary or Primary Education

Lack of early childhood education may pose a barrier to primary school retention and attendance in later years. Around 70% of children aged 3 – 4 years in Sindh are not attending either pre-primary or primary education. Of the 30% who are attending, 17% are attending pre-primary and 13% are attending primary school. This shows that there is a potential demand on Early Childhood Education since some households are sending their children to their next possible option, namely primary schools. Therefore, a wider offer in ECE, for example by creating pre-primary classes in primary schools, would presumably find their openings quickly covered. The proportion of pre-primary age children not attending pre-primary or primary education has witnessed a small decrease from 73% in 2007-08 to 70% in 2013-14.

3.1.2 Dimension 2: Primary School Age Children Not in Primary or Secondary School

Dimension 2 consists of children of primary school age (5-9 years) who are not in primary or secondary school. Based on PSLM-HIES 2013-14 data, some 2.57 million (42.1%) of primary-age children were out-of-school in Sindh, and this number had been rising significantly over the previous six years. Younger children are more likely than older children to be out-of-school; the proportion of out-of-school children is highest for five-year old at 60%, which sharply drops to 40.2% for six-year-old, 34.7% for eight-year-old and 32.4% for nine-year-old.

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Table 29 shows the significant increase in the number of primary-age out-of-school children in Sindh over the six years covered, going up from 1.87 million (39.9%) in 2007-08 to 2.57 million (42.1%) in 2013-14.

Table 29. Primary school-age children out of school (dimension 2), 2007-08 and 2013-14

YEAR	MALE		FEMALE		TOTAL	
	Number of out of school	%	Number of out of school	%	Number of out of school	%
2007-08	837,756	34.1	1,036,378	46.2	1,874,134	39.9
2013-14	1,172,670	36.1	1,396,635	49.0	2,569,305	42.1

Source: Computed from PSLM-HIES 2007-08 and PSLM-HIES 2013-14

Table 30 shows school exposure of primary-age out-of-school children. It reveals that 54% out of school children are expected to never enter primary school. In addition, those that will eventually go to school tend to be over-age, which in itself increases the risk of dropping out later on. Girls are more likely to never enter primary school (63%) than boys. The constant increase of volumes and rates of out-of-school children might reflect a persistent lack of capacity of the school system to absorb population growth, although some improvement has been detected in 3 and 4-year-olds. Construction or rehabilitation of new classrooms and schools is urgent to compensate for the school-age children growth.

Table 30. School exposure of primary school-age out-of-school children by sex, 2013-14 (Percent)

	MALE	FEMALE	TOTAL
	(% of OOSC)	(% of OOSC)	(% of OOSC)
School exposure			
Dropped out (% of OOSC)	2.2	3.8	3.2
Expected to enter by age 17 (% of OOSC)	57.9	33.0	43.0
Expected to never enter (% of OOSC)	39.9	63.2	53.8

Source: Computed from PSLM-HIES 2013-14

3.1.3 Dimension 3: Middle School Age Children Not in Primary or Secondary School

Middle school-age children (10 – 12 years) who are not in primary, middle or secondary school are included in dimension 3. Some 39.2% (or 1.13 million children) of middle school-age children did not attend primary, middle or secondary school in Sindh in 2013-14. The percentage of out-of-school children was much higher for girls (48.9%) than for boys (29.5%) – a difference of 19.4 percentage points.

Older children of middle school-age were more likely to be out-of-school. Compared with 29.1% of 10 year-old children not going to school, this proportion sharply increased to 43.7% for 11 year-old and 40.6% for 12 year-old. For boys aged 11 years, this rate nearly doubled going from 17% to 35.5% while it significantly increases for girls going from 42.5% to 51.4%. A likely explanation may be that a sizable proportion of children who completed primary did not transition to middle, and, of those who did transition, a sizable proportion did not complete middle (see, evidence below on the transition and completion rates from primary to middle education).

Historical trend presented in Table 31 shows that the number and proportion of middle school-age children who are out of school increased from 0.77 million or 36.9% in 2007-08 to 1.13 million or 39.2% in 2013-14. It is most alarming that Sindh and Balochistan were the only provinces where both the number and proportion of out-of-school children have been continuously increasing since 2007-08. Gender disparity was widespread in each case where girls were significantly more likely to be out-of-school than boys.

Table 31. Middle school-age children out of school (dimension 3), 2007-08 and 2013-14

YEAR	MALE		FEMALE		TOTAL	
	Number OOSC	%	Number OOSC	%	Number OOSC	%
2007-08	320,383	29.6	449,624	44.9	770,007	36.9
2013-14	426,170	29.5	703,970	48.9	1,130,140	39.2

Source: Computed from PSLM-HIES 2007-08 and PSLM-HIES 2013-14

School exposure of middle school-age out-of-school children (Table 32) shows that 77% were expected to never enter middle school; girls were a more common category to never enter middle school (80%). This means that 39% of all girls of middle-school age were expected to never enter school.

Table 32. School exposure of middle school-age out-of-school children by sex, 2013-14 (Percent)

	MALE	FEMALE	TOTAL
	(% of OOSC)	(% of OOSC)	(% of OOSC)
School exposure			
Left school or dropped-out	26.0	17.2	20.5
Expected to enter in the future (by age 17)	2.2	2.8	2.4
Expected to never enter school	71.7	80.0	77.1

Source: Computed from PSLM-HIES 2013-14

The Government of Sindh must introduce gender-specific policy interventions for out-of-school children in Dimension 3. High drop-out rates for girls in primary and secondary education has a lot to do with parental attitudes towards girls' education where they are largely seen in reproductive roles as wives and mothers due to which more importance is given to imparting skills in household chores (Zafar, 2007; Sathar and Kazi, 2000). Awareness raising campaigns through electronic and print media can play a key role in changing parental attitudes.

3.1.4 Dimension 4: Children in Primary School but At Risk of Dropping Out

Dimension 4 is about children who are in primary education, but at risk of dropping out from school. Internal efficiency of a school system is measured by the survival rate from first grade of primary education to the last grade in a school year. The survival rates are calculated from Sindh EMIS data, covering only public schools, provided by Sindh Education and Literacy Department of Government of Sindh. Table 33 presents the percentage of a cohort of students enrolled in the first grade of primary education in given school year who are expected to reach the last grade of primary education, with or without repetition.

Though survival rates for this age group improved over the 2010-2015 period, the Gender Parity Index score fell, and expected dropout rates fell. High levels of overage attendance and limited exposure to Early Childhood Education were contributing factors in risk of dropout.

The estimates suggest that the survival rate of the new entrants to primary education in Sindh consistently increased over 2010 and 2015. The three-year moving average shows that 62.8% of new entrants reached the last grade of primary education in 2010, but this rate has increased to about 66.4% in 2015. In other words, 34% of new entrants still drop out before reaching the last grade of primary education. The survival rate for boys has increased from 63% in 2010 to 68% in 2015. However, at the same time, there is modest improvement in the survival rate for girls.

Table 33. Survival rate to the last grade of primary education in public schools, 2010-2015

YEAR	THREE-YEAR MOVING AVERAGE			
	MALE	FEMALE	TOTAL	Gender Parity Index (GPI)
2010	62.82	63.31	63.02	1.01
2011	64.55	63.91	64.29	0.99
2012	64.29	62.80	63.70	0.98
2013	65.94	63.99	65.18	0.97
2014	66.07	63.06	64.90	0.95
2015	67.67	64.31	66.36	0.95

Source: Computed from Sindh EMIS data.

A Gender Parity Index (GPI) below 0.97 indicates disparity in favour of boys while a value above 1.03 indicates a disparity in favour of girls. Table 3.6 shows that survival rate gender parity in primary education in Sindh between 2010 and 2013 was neutral, however, it has worsened in recent years with GPI falling to 0.95.

Table 34 displays the percentage and number of children in public primary schools who are expected to drop out before the last grade. The share and number of children at risk of dropping out from school has declined from 0.330 million (37%) in 2010 to 0.311 million (36.3%) in 2012 to 0.293 million (33.6%) in 2015, which may be attributed to improved school monitoring and evaluation mechanisms of the provincial government. Girls in primary education have higher expected dropout rate from school than boys (36% compared with 32%).

Table 34. Percent and number of children in primary education expected to drop out before the last grade, 2010 - 2015

YEAR	THREE-YEAR MOVING AVERAGE					
	MALE		FEMALE		TOTAL	
	%	Number expected to drop out	%	Number expected to drop out	%	Number expected to drop out
2010	37.18	821082	36.69	490773	36.98	330308
2011	35.45	771851	36.09	456857	35.71	314995

2012	35.71	764503	37.20	453089	36.30	311414
2013	34.06	724268	36.01	431048	34.82	293220
2014	33.93	729294	36.94	430740	35.10	298555
2015	32.33	710884	35.69	417874	33.64	293010

Source: Computed from Sindh EMIS data.

Increased risk of dropping out from school is directly linked with the extent of overage attendance. Note that only children two- or more-years overage for the grade they attend are considered overage. Table 35 displays the share of primary students in relation to their ages and attended grades. It also identifies the extent of overage attendance, which is linked to increased risk of dropping out. Overall, 73% children of primary school-age (72% male and 75% female) enter school at the official age for the grade while 6.4% of the children are underage. Moreover, 13.4% children in primary education in Sindh are at high-risk of dropping out because they are overage by two or more than two-years and 7.1% of children are at high-risk of dropping out due to being overage by one-year.

Table 35. Children in primary education who are underage, at the official age, or overage for their grade, by sex, 2013-14

	MALE	FEMALE	TOTAL
Underage	6.8	5.8	6.4
Official age	72.0	74.6	73.1
Official age + 1 year	7.7	6.2	7.1
Overage (2 or more years)	13.5	13.4	13.4

Source: Computed from PSLM-HIES 2013-14

Rural children are at somewhat higher risk (14.7% rural versus 12.3% urban) of dropping out than urban children due to being overage by two plus years. A disaggregation by wealth quintile shows that a higher proportion of the richest children belong to the official age for the grade compared with poorest children; children from the bottom three wealth quintiles have higher risk of dropping out due to being overage by two or more than two years compared with children from upper wealth quintiles. Finally, the extent of overage attendance by language reveals that the proportion of overage children is highest among Urdu and Sindhi-speaking children compared with Punjabi-speaking children in Sindh.

Early childhood education (ECE) is an indicator often used to measure school readiness. Non-participation in ECE is linked to increased risk of dropping out (Currie, 2001; Reynolds et al., 2001). ECE includes kindergarten, nursery, pre-nursery, or religious education in mosques or at home. Around 13% of children in Sindh (0.229 million) are at risk of dropping out from primary school because they entered Grade 1 without receiving ECE. While urban children are more likely to benefit from ECE, gender difference is most acute in urban areas where girls are 8 percentage points more likely to be excluded from ECE than boys.

Children from middle wealth quintiles are least likely to have received pre-primary education where the percentage of girls having no ECE is much higher than others. Children coming from Sindhi-speaking households are much more likely (15%) than other children to have not received pre-primary education. Part of the problem is that no policy for early childhood education existed in Sindh until

2015 and there was absence of ECE materials, ECE teaching cadre, facilities and resources at school level[56]. Even now the situation needs major improvements (see Chapter 2)

3.1.5 Dimension 5: Children in Middle School but At Risk of Dropping Out

Dimension 5 refers to children who are of middle school-age but at risk of dropping out from school. Internal efficiency of a school system is measured by the survival rate from first grade of middle education to the last grade including both public and private schools.

Using Sindh EMIS data, Table 36 reports three-year moving averages of the survival rate to the last grade of middle education in public schools. The estimates suggest that 96% of new entrants eventually reached the last grade of middle education in 2015 while 4% of them dropped out before reaching the last grade of middle education. The survival rate to the last grade of middle education has gradually increased from 92% in 2010 to 94% in 2013 reaching to 96% in 2015. From 2010 to 2012, there was no gender disparity in male and female survival rates (GPI ranged below 1.03), however, in more recent years, gender disparity has moved in favour of girls, as GPI has exceeded 1.03.

Table 36. Survival rate to the last grade of middle education in public schools, 2010-2015

YEAR	THREE-YEAR MOVING AVERAGE			
	MALE	FEMALE	TOTAL	GPI
2010	91.22	93.35	92.15	1.02
2011	93.60	93.21	93.45	1.00
2012	91.96	93.12	92.39	1.01
2013	92.85	95.65	93.91	1.03
2014	91.49	97.88	94.00	1.07
2015	93.63	100.00	96.13	1.07

Source: Computed from Sindh EMIS data.

Table 37 displays the percentage and number of children in middle education who are at risk of dropping out before the last grade of middle school in public schools. Overall, three-year moving average shows that 16,037 (6%) children in middle education are at risk of dropping out from middle education in 2014. The share of children at risk of dropping out has declined from 7.85% in 2010 to 6% in 2014. Boys have a little higher risk of dropping out from school as shown by the expected drop out rates for boys and girls.

Table 37. Children in middle education expected to drop out before the last grade of middle education, 2010-2015

YEAR	THREE-YEAR MOVING AVERAGE					
	MALE		FEMALE		TOTAL	
	%	Number expected to drop out	%	Number expected to drop out	%	Number expected to drop out
2010	8.78	22686	6.65	13174	7.85	35860
2011	6.40	16102	6.79	12885	6.55	28987
2012	8.04	20076	6.88	12525	7.61	32601
2013	7.15	17758	4.35	7505	6.09	25263

[56] https://www.academia.edu/18137765/Early_Childhood_Care_and_Education_Policy_Sindh_2015

2014	8.51	21294	2.12	3415	6.00	24708
2015	6.37	16037	0.00	0	3.87	16037

Source: Computed from Sindh EMIS data.

Table 38 displays that 58.8% children in middle education are within the official age for the grade they attend and 4.6% children are underage for their grade. Around 17% of children of this age are severely at risk of dropping out from school because they are overage by two or more than two- years for their grade while 20% of them are at high-risk of dropping out because they are overage by one-year for their respective grades. Rural children, children from poorest wealth quintiles and Punjabi and Sindhi speaking children are at higher risk of dropping out from school due to being overage for their respective grades.

Table 38. Children in middle education who are underage, at the official age, or overage for their grade, by sex, 2013-14 (Percent)

	MALE	FEMALE	TOTAL
Underage	4.1	5.3	4.6
Official age	58.2	59.6	58.8
Official age + 1 year	20.4	19.1	19.8
Overage (2 or more years)	17.3	16.1	16.7

Source: Computed from PSLM-HIES 2013-14

3.1.6 Attendance Rate of Secondary and Higher secondary Age Youth by Level of Education

Based on PSLM-HIES 2013-14 data for children aged 13 – 17 years, about 40.2% of secondary or higher secondary-age youth attend some level of education; however, 59.8% of them do not attend school at all. The percentage of youth not attending is higher for females (64.7%) compared with males (55.1%). Older youth are more likely to be out-of-school than younger ones. At this age, rural youth (73.1%) are more likely to be excluded relative to urban youth (47.5%). Similarly, those coming from poorest and second poorest wealth quintiles and Sindhi-speaking youth are least likely to attend. About 80% of those not attending are in some form of employment.

Nationwide a huge majority of youth aged 13 – 17 years are not attending school indicating that they do not possess the necessary elementary skills to be productive members of the society. Based on PSLM-HIES 2013-14 data, on average, 56.6% of youth have no formal schooling, 19.4% have obtained incomplete primary or primary education, and 10.3% have incomplete or completed middle education whereas only 13.86% youth have completed at least secondary education. These numbers suggest that huge effort would be required from the government to remedy the situation by introducing accelerated learning schemes, e.g., ALPs or other forms of "catch-up" education programs.

Table 39 shows that 61.4% of higher secondary age youth are in education and employment (32.4% in education and 29% in employment)[57]. Moreover, 30.8% of them are not in education, employment or training. However, it is striking to see that among higher secondary age youth, nearly 72% of those

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[57] Consistent with the definition in the Labour Force Survey, employment variable is constructed from the question in PSLM-HIES 'Did … do any work for at least one hour for profit OR family gain in last week?' Employment and training are used interchangeably.

who are neither in school nor in employment are boys. But among those who are managing both education and employment, 79% are girls.

Table 39. Share and number of higher secondary age youth in education, employment and training, by sex, 2013-14

	MALE		FEMALE		TOTAL	
	Number	%	Number	%	Number	%
In education only	798,436	32.2	771,574	32.6	1,570,010	32.4
In employment or training only	314,170	12.7	62,725	2.7	376,895	7.8
In education and employment	290,921	11.7	1,112,227	47.1	1,403,148	29.0
Not in education, employment or training	1,072,511	43.3	416,750	17.6	1,489,261	30.8

Source: Computed from PSLM-HIES 2013-14

Historical trends show that the rate of out-of-school secondary school-age youth (13 – 14 years) has declined from 52.3% in 2007-08 to 50% in 2013-14, but the number of out-of-school youth has increased in the same period from 0.785 million to 0.977 million due to population growth. Moreover, the out-of-school rate for girls (58%) is significantly higher than that for boys (42%), something that has not changed much over the past six years.

Table 40. Percent and number of higher secondary school-age youth (13-14 years) out of school, 2007-08 and 2013-14

	MALE		FEMALE		TOTAL	
	Count	%	Count	%	Count	%
PSLM 2007-08	338533	44.84	446543	59.86	785076	52.31
PSLM 2013-14	413993	42.13	563313	57.96	977306	50.01

Source: Computed from PSLM-HIES 2007-08, PSLM-HIES 2011-12 and PSLM-HIES 2013-14

In turn, the rate of out-of-school Higher secondary-age youth (15 – 16 years) has significantly increased from 60.4% in 2007-08 to 62.5% in 2013-14; the number of such children has also increased from 0.766 million to 1.1 million. However, gender disparity in out-of-school rates has significantly improved higher secondary education since the rate has decreased from 14.11 percentage points in 2007-08 to 5.62 percentage points in 2013-14.

Table 41. Youth of higher secondary school-age (15-16 years) out of school, 2007-08 and 2013-14

	MALE		FEMALE		TOTAL	
	Count	%	Count	%	Count	%
PSLM 2007-08	337337	53.31%	428235	67.42%	765572	60.38%
PSLM 2013-14	527955	59.69%	568970	65.31%	1096925	62.48%

Source: Computed from PSLM-HIES 2007-08, PSLM-HIES 2011-12 and PSLM-HIES 2013-14

3.1.7 Education pathways for youth in Sindh

The data on educational attainment of youth (aged 13 to 17 years) in Sindh is presented in Figure 20, which shows the dynamics of children's progress through different layers of the education system. The schooling trajectories in Sindh for 13 to 17 year-old youth who entered primary school and should have completed their middle education shows that only 66% children entered in primary education while 34% children did not enter primary school. Those who entered primary, only 60% had completed primary and 52% had transitioned to middle education whereas only 38% children had completed middle education by the time they had reached 13 to 17 years of age. In other words, from 66% who entered primary, only 38% of children had completed middle education. These rates are much lower than the national average suggesting that the educational system in Sindh may be suffering from major bottlenecks, which needs to be addressed.

Figure 20. Educational attainment of youth aged 13-17 years in Sindh, 2013-14
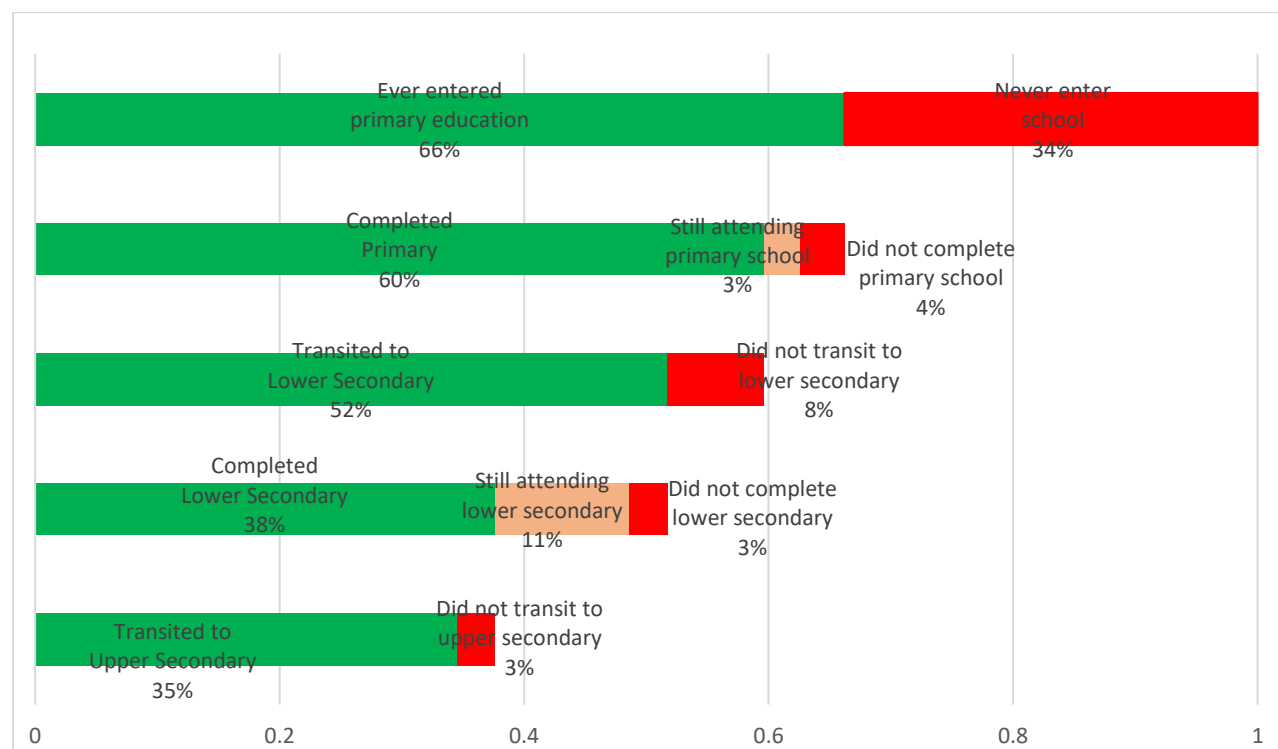
Source: Computed from PSLM-HIES 2013-14

It can be concluded that a substantial proportion of children in Sindh fail to enter primary education and those who do enter primary education, a small proportion of children could transition to higher secondary level, especially, girls. The trajectory for children who enter school and drop out was also clearly visible in the previous chapter.

3.2   Equity in Access to Education and Retention in Sindh

This section of the report analyses equity in access to education and retention in Sindh by identifying various markers of disadvantage, e.g., gender, geographic location, wealth and mother tongue, etc. The equity analysis of access to education and retention in Sindh is organized around the Five-Dimensions of Exclusion. This is followed by analysis of profiles and characteristics of out-of-school children and an analytical summary of the out-of-school children in Sindh.

Wide gender and socio-economic disparities persist across groups of out-of-school children in Sindh. Poverty appears to be an important barrier to education in all the four provinces where wealth status is negatively associated with school exclusion of children.

Measured by the out-of-school rates in the poorest and the richest wealth quintile, the disparity in pre-primary education is highest in Punjab (22 percentage point difference), followed by Sindh (16.3 percentage point). Among all provinces, wealth disparity is highest in Balochistan and Sindh provinces at the primary and lower-secondary level.

Much of the excluded children in the four provinces live in rural areas. The evidence from across the four provinces also suggests that children from rural backgrounds have much higher likelihood of being excluded. The rural-urban gap, measured by the percentage point difference in out-of-school rate, is highest in Sindh and Balochistan in both primary-age and middle school-age children. However, in early education, rural-urban gap is highest in Sindh and Punjab provinces.

In Sindh, the rural-urban gap intensifies and reaches its peak at the middle school level, and is compounded by gender. The highest proportion of out-school-children are rural girls (62.1%). Around half of Sindh-speaking children are out of school at the primary and middle level.

3.2.1 Equity in access to education for children (dimension 1)

The rural/urban disparity for children under dimension 1 is large with 80.4% rural pre-primary school age children not attending school, compared with 56.5% urban children. Since Sindh has the second largest population in the country, after Punjab, the exclusion of such a sizeable proportion of rural children from pre-primary education warrants attention of the policy makers.

Household wealth is also a significant variable in determining school attendance in pre-primary education. Three-fourth of the children in poorest, second-poorest and middle wealth quintiles are excluded from pre-primary education while 57% of children from the wealthiest quintile are also excluded.

Some 79% of Sindhi-speaking children in Sindh are not attending pre-primary, compared with 55% Urdu-speaking children and 57% Punjabi-speaking children. Since most Sindhi-speaking children live in interior of Sindh, these areas should get highest priority of Sindh government to improve access to education.

This data seems to suggest that pre-primary school infrastructure for delivery of pre-primary education is either non-existent in Sindh or is very weak. As noted by *Early Childhood Care and Education Policy 2015* of the Sindh government, urgent attention is required to bring these children back to school (Government of Sindh, 2015). Introduction of pre-primary classes in public schools, training of teachers in pre-primary education and improving curriculum for pre-primary education are some of the steps that can help in increasing the school attendance rates (Government of Sindh, 2015).

3.2.2 Equity in access to education and retention for children (dimension 2)

A major disparity in school attendance under dimension 2 is observed along the lines of wealth, location and sex.

Figure 21 shows that perceptions on gender can often combine with location and income to determine whether a child goes to school or not. The proportion of primary school-age children not attending school from rural areas (52.9%) is almost double that of children from urban areas (27.8%). However, the difference between rural female and rural male out-of-school rate is 17.3 percentage points whereas the rate difference between urban females and urban males is only 6.7 percentage points.

Figure 21. Percentage of primary-age OOSC by household wealth quintile, location and sex, 2013-14
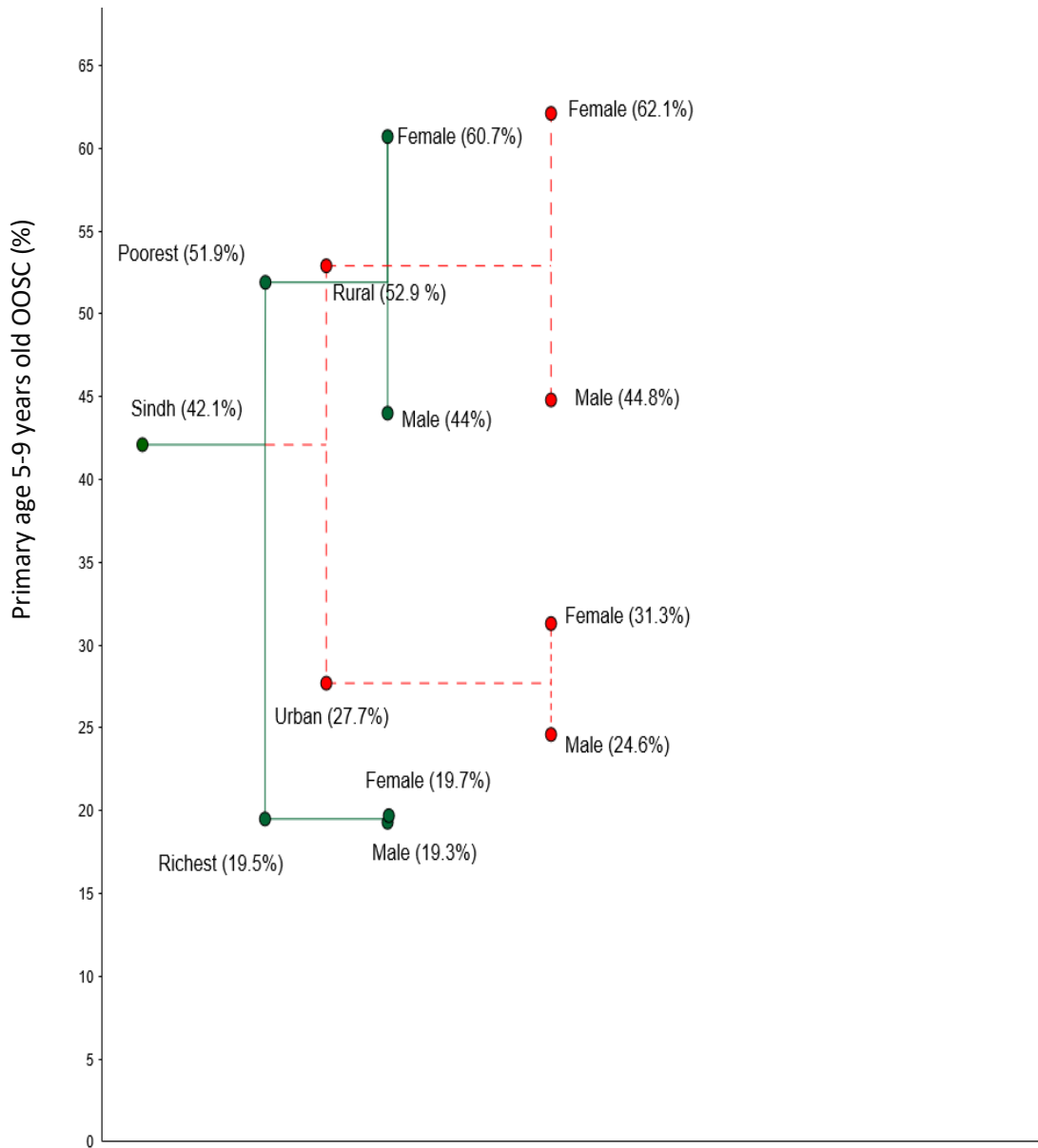
Source: Computed from PSLM-HIES 2013-14

Although children from poorest wealth quintile (51.9%) are more likely to be out of school than those from richest wealth quintile (19.5%), gender inequality is most pronounced in the poorest quintile. In the poorest wealth quintile, the female out-of-school rate is 16.7 percentage points more than male out-of-school rate; in richest quintile female-male differential is insignificant.

The out-of-school children population can be categorized into three groups based on their past and future school exposure: (1) children who have attended school in the past, but have dropped out; (2) children who have never attended school, but are expected to enter school in the future; and (3) children who have not attended school and are expected to never enter school.

From the primary-age out-of-school children population in Sindh, 54% are expected to never enter school. Girls at 63% are more likely never to enter primary school, compared with 40% of boys. In this context, primacy is accorded to girls' domestic duties because they are unlikely to be employed in the future and hence families see no real need to educate them (see Box 5). These socio-cultural traditions and ties are strongest in less developed regions and insurgency stricken/conflict zones, among others. Non-availability of girls' schools and presence of ghost schools (schools which receive funding, but have no teachers or students) are significant barriers in Sindh[58].

Box 5. Gender Gap in Education in Sindh

A study conducted by Indus Resource Centre in collaboration with Oxfam and the Government of Sindh (Gender Disparity in Education in Sindh: Situation Analysis) looks at various dimensions to explain gender gaps in education. It concludes that the traditional roles given to women to "reproduce, childcare, housework, cooking and looking after the extended family" trump the need for education. Another study (Matriculation Examination Results in Balochistan and What They Mean For The Future) conducted by Alif Ailaan for Balochistan starkly brings out supply side factors. It shows that following a hundred percent increase in female participation in secondary examinations during a period when at the backend number of female secondary schools increased by a 100%. Girls' drop-out rate and absenteeism can also be linked with inadequate sanitation facilities in schools[1]. Absence of facilities for girls' menstrual hygiene needs in secondary schools have real practical consequences on girls' school enrolment. There are serious enrolment issues in girls' schools where there are no boundary walls or where the toilets are not adequate in number (Mojiz, 2017). Non-availability of girl's middle and secondary schools within a reasonable distance from home is another major barrier of girls' education. For example, SEMIS 2016-17 data reveals that there are only 545 middle/elementary schools, 462 secondary schools, and 75 higher secondary schools for girls in Sindh. There are also 1,377 middle/elementary, 881 secondary and 150 higher secondary mixed schools.

A gender report commissioned by the USAID's Sindh Capacity Development Project (SCDP) on the Education Management Organization model in the province showed that parents were prepared to send girls to schools even at secondary level in a co-education school. The primary factors seemed to be the engagement efforts of education management organizations with the community to win their confidence, the quality of the buildings and the perception of security. A general failure to win community confidence impacts much in education, including female participation. It seems that more research is required before a clear set of factors with possible remedial actions can be evinced.

Figure 22 shows that household wealth makes a significant difference on school attendance in primary where children from poorest wealth quintile are 60% more likely to never enter school relative to only 19% for richest children; most children from richest quintile are expected to enter school in the future (79%).

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[58] https://tribune.com.pk/story/1711135/1-treasury-member-laments-presence-ghost-schools-sindh/
https://tribune.com.pk/story/1379148/ghost-schools-still-haunt-sindh-education-sector/

Figure 22. School exposure of primary school-age OOSC, by wealth, 2013-14
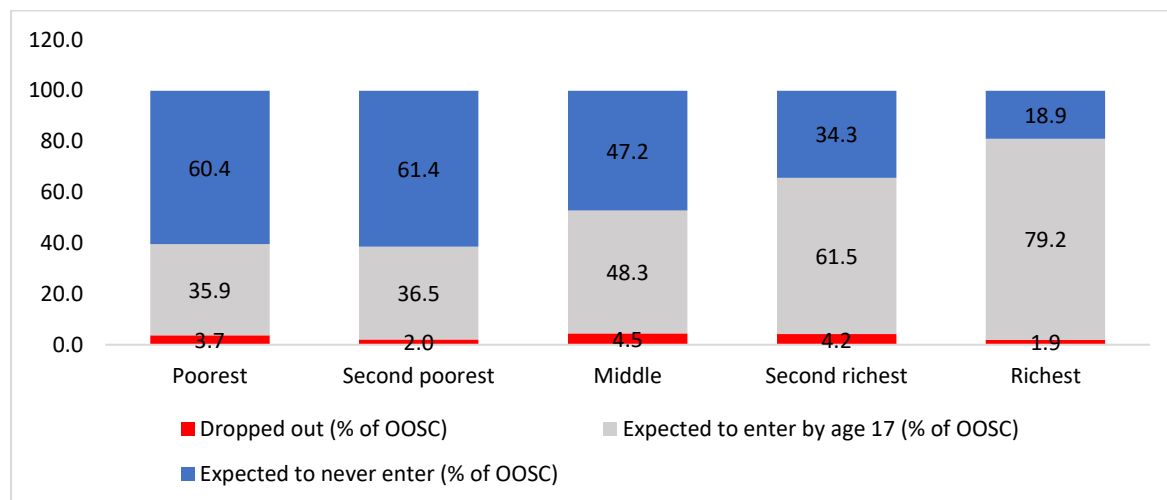
Source: Computed from PSLM-HIES 2013-14

Most Urdu-speaking children (73%) are expected to enter primary school in the future, while most Sindhi-speaking children (63.4%) are expected to never enter school. Thus, Sindhi-speaking children are most deprived group in Sindh relative to Urdu-speaking children. Given that most Urdu-speaking children are living in Karachi and Hyderabad, there is a clear indication that the state of education in other districts and towns needs special attention of the provincial government so that the deprived groups could be brought at par with other linguistic groups.

3.2.3 Equity in access to education and retention for children (dimension 3)

Figure 23 presents the percentage of out-of-school, middle school-age children by household wealth, location and sex in middle education in Sindh. It reveals that household wealth is negatively correlated with the school attendance status of these children. Some 50.1% children from poorest households are out-of-school, compared with 11.2% from wealthiest households. Gender inequality is prevalent in the poorest households where female/male differential in out-of-school rates is 12.8 percentage points, compared with the richest wealth quintile where this differential is only 2.9 percentage points. Rural children are 53.8% likely to be out of school, compared with 24.4% of urban children. However, gender disparity is most pervasive in rural households where female out-of-school rate is 31% while the male out-of-school rate in 17.8%; the difference between female and male out-of-school rate in urban households is only 12.3 percentage points. All of these data provide a profile of person who is very likely to be out of school: a girl living in a rural area, and coming from a poor household, will have significantly lower possibilities of going to school. It is a much harder challenge for these girls to attend school, and it will become even harder to finish their education.

Data on school exposure shows that household wealth makes a significant difference in school attendance in middle school where children from poorest and second poorest wealth quintile are respectively 80% and 85% more likely to never enter school relative to 43% for richest children. Moreover, 45% children from richest wealth quintile are expected to enter school by age 17, compared with only 13% children for second poorest and 20% children for poorest quintiles.

Figure 23. Percentage of middle school-age OOSC by household wealth quintile, location and sex, 2013-14
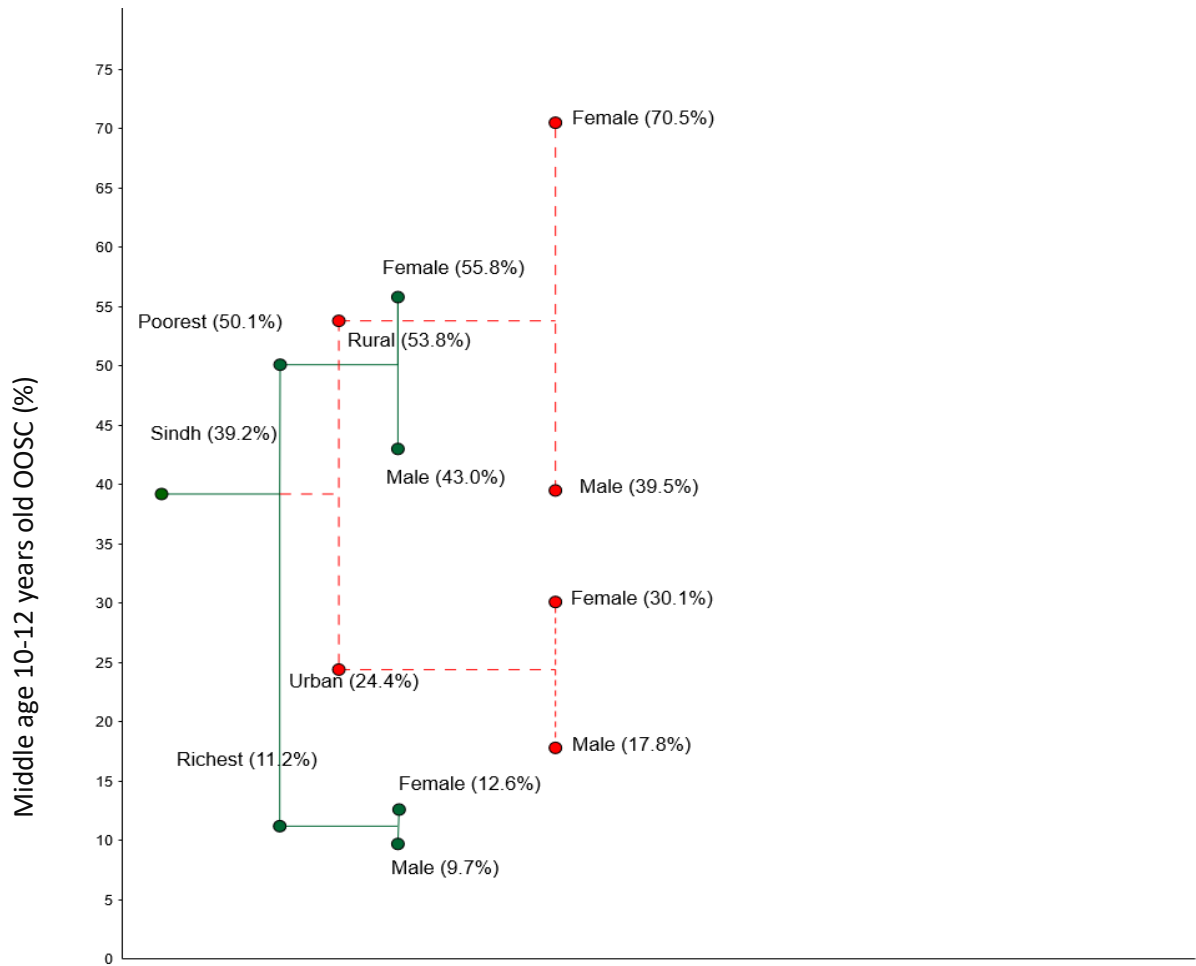
Source: Computed from PSLM-HIES 2013-14

Figure 24. School exposure of middle school-age OOSC, by language, 2013-14
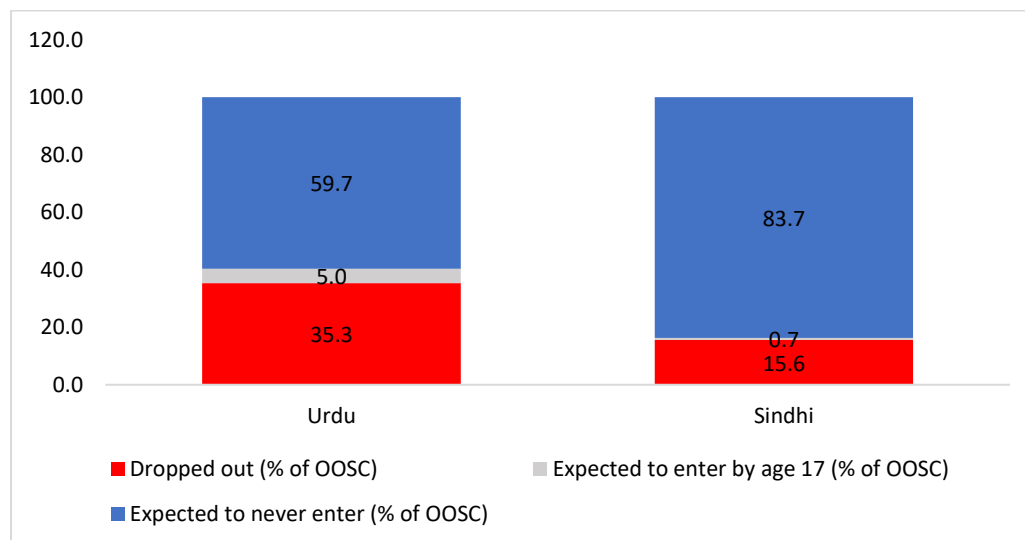
Source: Computed from PSLM-HIES 2013-14

Figure 24 shows that there is a striking contrast between Urdu- and Sindhi-speaking children in school exposure in middle education based on spoken language. About 84% of Sindhi-speaking children are expected to never enter school relative to 60% children who speak Urdu. Moreover, 5% of Urdu-speaking children are expected to enter school in the future, compared with less than 1% of Sindhi-speaking children.

3.2.4 Equity in risk of dropping out for children in primary education (dimension 4)

While the survival rate of the new entrants to primary education in Sindh has consistently increased in recent years, 34% of new entrants to primary education still drop out before reaching the last grade. As shown in Section 3, the survival rate gender parity, which was neutral until 2013, has worsened after 2013; GPI has dropped to 0.95 indicating that gender parity index is now in favour of boys. The expected dropout rate of girls in primary education (36%) is much higher than the dropout rate of boys (32%).

Given that overage attendance in school is directly linked with increased risk of dropping out from school, the evidence on extent of overage attendance indicates that rural children are at higher risk (14.7%) of dropping out than urban children (12.3%).

Moreover, data reported in Table 42 shows that children coming from bottom three wealth index quintiles are at much higher risk of dropping out due to being overage by two or more than two years relative to children from upper wealth quintiles. Most children belonging to richest wealth quintiles are in the official age range for the grade compared with poorest children. The extent of overage attendance by mother tongue of children in Sindh shows that the proportion of overage children is highest among Urdu and Sindhi-speaking children relative to Punjab-speaking children.

Table 42. Children in primary education who are underage, at the official age, or overage for their grade, by wealth index quintile, 2013-14 (Percent)

	POOREST	SECOND POOREST	MIDDLE	SECOND RICHEST	RICHEST	TOTAL
Underage	7.7	6.4	5.0	6.2	5.7	6.4
Official age	72.9	71.5	71.3	74.0	76.0	73.1
Official age + 1 year	8.0	6.0	8.0	6.0	7.5	7.1
Overage (2 or more years)	11.3	16.1	15.7	13.7	10.8	13.4

Source: Computed from PSLM-HIES 2013-14

Early childhood education is another indicator of disparity in Sindh where 13% children are at risk of dropping out from primary education because they entered Grade-1 without receiving early childhood education (Table 43). In this regard, gender bias is more pronounced in urban households where girls are 8 percentage points more likely to be excluded than boys. Girls from Sindhi-speaking children are least likely to have received pre-primary education.

Table 43. New entrants to Primary education without Early Childhood Education, by sex and other characteristics, 2013-14

	MALE		FEMALE		TOTAL	
	Number of children	%	Number of children	%	Number of children	%
RESIDENCE						
Rural	72,268	14	49,117	13	121,385	14
Urban	25,562	5	82,083	21	107,645	12
LANGUAGE						
Urdu	15,966	4	53,269	17	69,235	10
Punjabi	1,839	9	0	0	1,839	7
Sindhi	80,025	14	77,932	18	157,957	15
TOTAL	97,830	10	131,201	17	229,031	13

Source: Computed from PSLM-HIES 2013-14

3.2.5 Equity in risk of dropping out for children in middle education (dimension 5)

Data on risk of dropping out from middle education in Sindh shows that the survival rate to the last grade of middle has significantly increased; 96% of new entrants reached the last grade in 2015 and only 4% of them dropped out. There was no gender disparity in male and female survival rate until 2014; however, gender disparity, measured by GPI, has exceeded 1.03 in recent years indicating that gender disparity is in favour of girls compared with boys.

Moreover, the share of children at risk of dropping out has declined from about 8% in 2010 to 6% in 2014, boys have higher risk of dropping out than girls. Data also shows that rural children, children from poorest wealth quintiles and Punjabi and Sindhi speaking children are at higher risk of dropping out from school due to being overage for their respective grades.

3.2.6 Equity in education pathways for youth in Sindh

The dynamics of children's progress through different layers of education system and trajectories for 13 – 17 year-olds who entered primary and should have completed middle education suggests that

out of 66% children who entered primary, 38% completed middle education and 35% transited to Higher secondary education. The completion rates in Sindh are much lower than the national average of 75% entering primary, 42% completing middle and 38% transitioning to Higher secondary (UNICEF, 2018). This relative neglect in Sindh suggests that the educational system there may be suffering from some bottlenecks, which must be addressed.

It would be pertinent to note that household wealth plays a crucial role on educational trajectory for youth in Sindh where 87% children of richest and 60% children from poorest quintile entered primary education (or a difference of 27 percentage points). However, 77% of richest and 41% of poorest households completed middle education by the time they had reached the age of 13-17 years (Figure 25). Gender gap within poorest and richest households is small when children entered primary, but the gap disappears by the time they completed middle education.

Figure 25. Education attainment of youth in richest and poorest household of Sindh, 2013-14
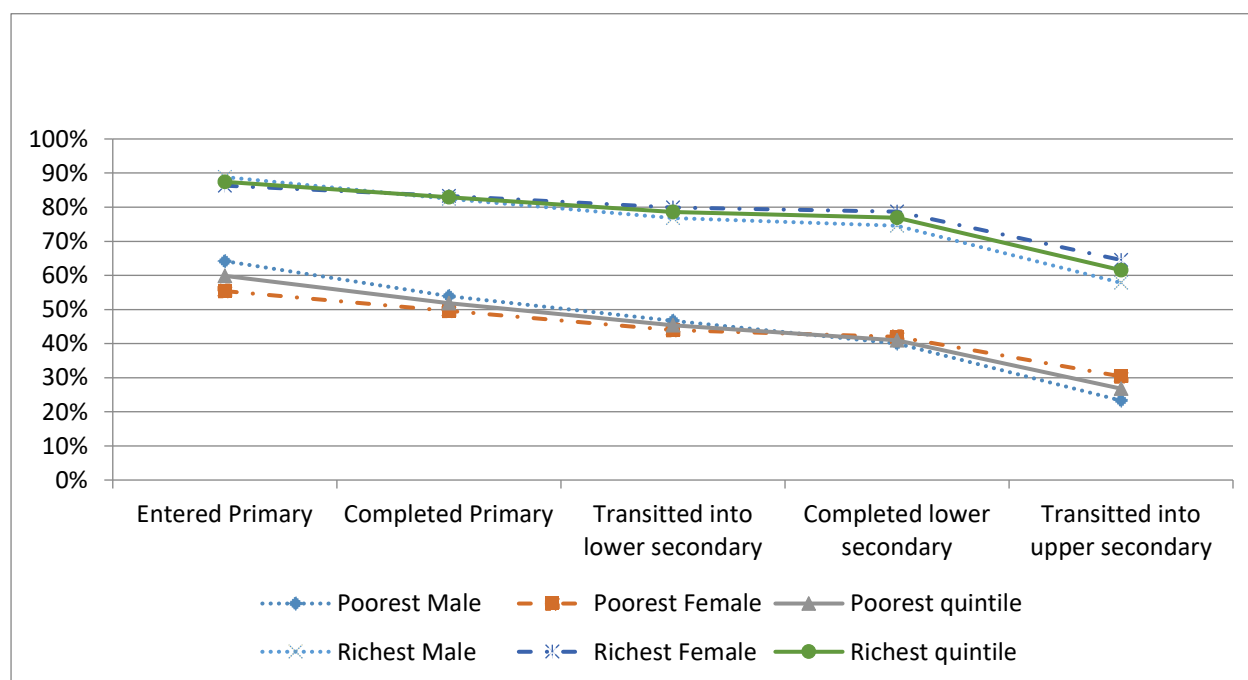
Source: Computed from PSLM-HIES 2013-14

There is a huge rural/urban differential in the proportion of children who entered primary education from urban (83.5%), compared with rural (47.6%), indicating a differential of 36 percentage points (Figure 26). The huge rural/urban gap persists throughout the educational trajectories. The gender gap between the youths from rural locations is most pronounced. From rural households, 60% boys had entered primary, compared with 34% girls. The gender gap generally remains unchanged when they reach middle education. By contrast, there is negligible gender gap in urban locations in the beginning where girls gain advantage by the time they reach middle education.

Figure 26. Education attainment of youth in rural and urban locations of Sindh, 2013-14
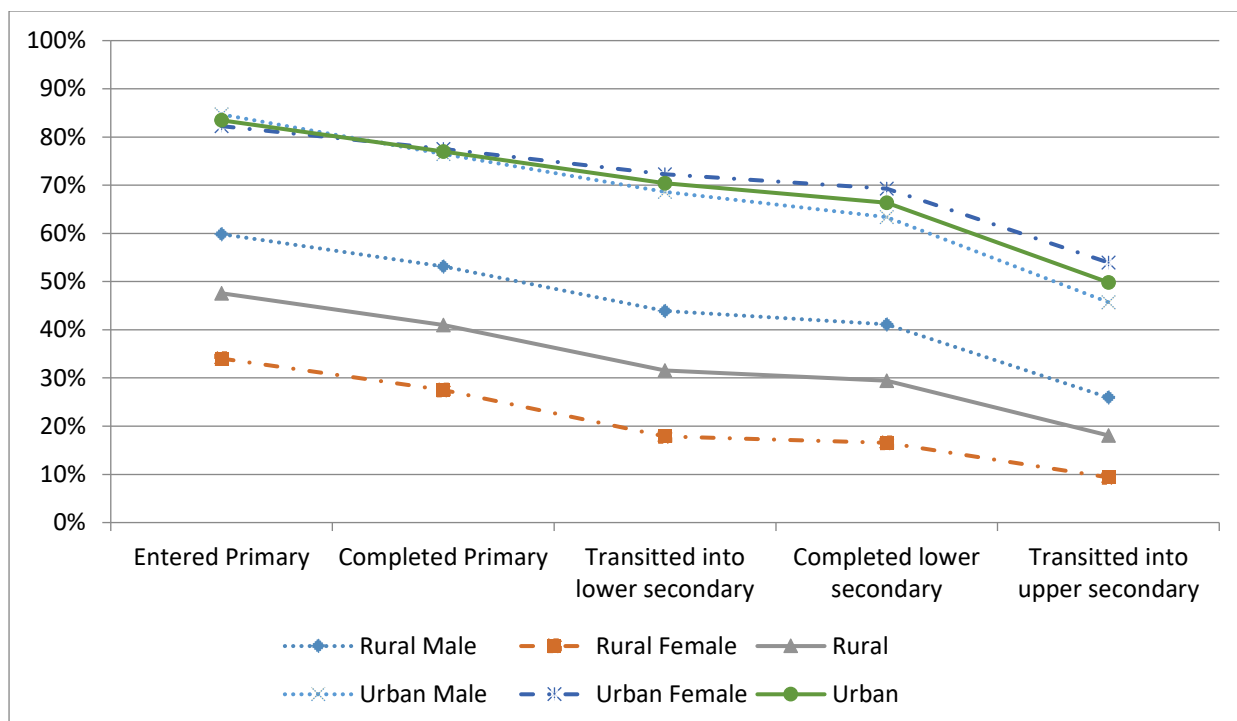
Source: Computed from PSLM-HIES 2013-14

The rural/urban divide is not only high, it persists from primary to higher secondary education indicating that major focus of policy makers should be to bring rural children and girls back to school. Income disparity is also high in Sindh, which confirms that poverty is indeed a major barrier to education for households who belong to poorest wealth quintile. These groups may need targeted interventions such as better governance, expansion of girls' education and income transfer schemes for the poor who have school going children. The provincial government should earmark dedicated, but more, funds to cater to the needs of girls' education so that it can be expanded in rural areas with best possible infrastructure and quality of instruction.

3.3 Profiles of Out-of-school Children and Children at Risk of Dropping out

A summary profile and characteristics of out-of-school children and children at risk of dropping out in Sindh focusing on children between 5 and 16 years old is presented in the following Box:

Box 6. Profiles and characteristics of out-of-school children and children at risk of dropping out in Sindh

Adjusted Net Attendance Rate	- ANAR of Sindh has decreased in the 2010-15 period for all levels of education in all but three districts. -Late entry and high repetition rates, especially for boys, appear to be the reasons behind overage attendance, which represents a sizeable proportion and poses substantial risk of dropping out. -Lowest attendance rates occur for pre-primary and upper-secondary school-age children. They begin to decline at the age of 10 for both boys and girls.
Dimension 1:	**Magnitude:** 70% children aged 3-4 years are not attending pre-primary or primary school

Pre-primary age children not in Pre-primary or Primary	**Historical trend:** Declined from 73% in 2007-08 to 70% in 2013-14. **Where they are:** 80.4% of rural children and 56.5% of urban children are out-of-school at this age; rural OOSC are 24 percentage points higher than urban OOSC. **Characteristics**: Children from poorest families; Sindhi-speaking (79%), Punjab-speaking (56%), Urdu-speaking (55%) children.
Dimension 2: Primary age children not in primary or secondary education	**Magnitude:** 2.57 million (42.1%) children of primary age do not attend primary or secondary education. **Historical trend:** The share of primary school-age OOSC has increased from 39.9% in 2007-08 to 42.1% in 2013-14; the magnitude of such children has done up from 1.87 million to 2.57 million in the same period. **Where they are:** Proportion of rural children (52.9%) is nearly double that of urban children (27.7%). **Characteristics:** Girls (49%), especially those living in rural areas (62.1%) and from the two poorest quintiles (52% and 53%). Those who speak Sindhi are also more likely to be excluded from school (49.3%). Most OOS girls will never attend school (63.2%). - Boys from urban areas, from wealthy households and speaking Punjabi are more likely to attend school. OOS boys are expected to enter school late (58%). -Out-of-school children from the poorest wealth quintile are 60% more likely to never enter school relative to 19% from richest wealth quintile. -Most Urdu-speaking out-of-school children (73%) are expected to enter primary school in the future, compared with much fewer Sindhi-speaking (34.4%) out-of-school children,
Dimension 3: Middle school age children not in primary or secondary	**Magnitude**: Some 1.13 million (39.2%) of middle age children are out-of-school in Sindh. They consist of 0.704 million or 48.9% of lower-secondary school-aged girls and 0.426 million or 29.5% of lower-secondary school-aged boys. **Historical trend:** The share of OOSC has increased from 36.9% in 2007-08 to 39.2% in 2013-14; the magnitude of OOSC has increased from 0.77 million to 1.13 million in the same period. **Where they are**: 0.782 million or 53.8% live in rural and 0.348 million or 24.4% live in urban areas. **Characteristics:** Children from the second-poorest (52%) and poorest (50%) families, girls from second poorest families (68.5%); Sindhi-speaking children, especially girls (66%); 77% of OOSC are expected to never enter school (80% for girls).
Secondary and Higher secondary school age youth not in school	**Magnitude:** -Some 0.977 million (50%) secondary school-age (13-14 years) youth (58% girls and 42% boys) are out-of-school; -Some 1.1 million Higher secondary-age (15 – 16 years) youth are out-of-school in Sindh. -Education pathways data shows that from 66% who enter primary, only 38% complete middle education. **Historical trend:** The share of out-of-school secondary school-age youth (13 – 14 years) has declined from 52.3% in 2007-08 to 50.01% in 2013-14. In the same period, the share of Higher secondary school-age youth who are out of school has increased from 60.4% to 62.5%. **Where they are:** In the age group of 13 -17 years, rural youth are more likely to be excluded (73.1%) relative to urban youth (47.5%). **Characteristics:** -The proportion of out-of-school youth is higher for females (64.7%) than for males (55.1%). -Youth belonging to poorest and second poorest wealth quintile are more likely to be excluded than richest wealth quintile.

	-Sindhi-speaking youth are least likely to attend, compared with Urdu- and Punjabi-speaking youth.
Dimension 4: Children in primary education at risk of dropping out	-Survival rate to the last grade of primary education is 67% (68% for boys and 64% for girls). -34% children in public primary schools are expected to drop out before the last grade including 32% boys and 36% girls. -13.4% of children are at high-risk of dropping out due to being overage by two or more than two years. Urdu- and Sindhi-speaking children are more likely to be overage than Punjabi-speaking children.
Dimension 5: Children in middle education at risk of dropping out	-Survival rate of new entrants to middle to the last grade of middle education in public schools is high at 96% (100% for girls and 94% for boys). -Some 17% children are severely at risk of dropping out for being overage by two or more than two years. This risk is much higher in rural (22%) than in urban children (14%), in children from poor households and in Punjabi- and Sindhi-speaking children.

Source: PSLM-HIES 2013-14

3.4   Summary

Even if we can provide some indications on the profile of out-of-school children in Sindh, we cannot say that this profile is homogenous throughout the province. It is important to realize that the trends during the last years in Sindh are worrying since the number of out-of-school children has increased. The task of reducing the number of out-of-school children, yet unfinished, must be prioritized.

Data obtained from PSLM-HIES shows that between 2007 and 2014, Sindh's proportion of out-of-school children and adolescents did not stop increasing. It was the highest among all provinces. Age discrepancy was a primary issue where a sizable proportion of overage children attend pre-primary, primary and secondary education, drawing attention to the grave issue of late entry at each level of schooling.

Poverty is one of the most important barriers to education where low wealth status is negatively associated with school exclusion of children. Wealth-based disparity in primary and middle education is highest in Sindh.

Girls and boys should have equal schooling opportunities. However, perceptions around gender, combined with age, income and location, play vital role to determine the status of children being out-of-school.

But, when all of them perceive gender-based inequalities as normal, some children (most often girls) fail to remain in the educational net. Whereas attempts are being made in Sindh like other provinces to achieve gender-based equality in education, the majority of girls are still out-of-school. For example, in Sindh, the percentage of out-of-school children is much higher for girls at 49% versus 36.1% for boys. The gender gap is also acute in the lowest two wealth quintiles where out-of-school girls are more likely than boys to never enter primary and middle school.

Schooling trajectories of youth (aged 13-17 years) across provinces also suggest that household wealth makes a substantial impact on education pathways for youth and the gap between the rich and the poor intensifies in Sindh from the time when they enter primary to the time when they complete middle education.

The evidence from PSLM-HIES 2013-14 shows that a much higher proportion of rural relative to urban children are excluded. For instance, primary-age children from rural Sindh are 2.16 times more likely

to be out-of-school than children from urban areas. The gap between rural and urban localities intensifies and reaches its peak when the youth reach middle education. These results clearly suggest that more investment will be required to expand the coverage of middle education in rural localities, especially for girls' education. The gender gap is a problem in rural locations where the highest proportion of out-of-school children are girls accounting for 62.1% in Sindh.

Language spoken at home is used to proxy for ethnicity of children due to lack of data on ethnicity. The evidence from PSLM-HIES 2013-14 shows that spoken-language at home overlaps with poverty, rural location and gender in ways that can exclude children from the educational net. Thus, majority of Sindhi-speaking children from Sindh are excluded from the education system (49.3% are out-of-school in primary and 51.4% are out-of-school in middle education). When children lack education in their mother tongue, it becomes a major barrier to universal access to education, apart from its implications on successful learning outcomes. However, no data was available on the number or proportion of children who lack education in their own languages.

3.5   Conclusion

The analysis performed in this chapter on the characteristics and profiles of out-of-school children in Sindh, highlights the urgent need to revisit the existing policies to reduce the number and share of out-of-school children and adolescents. Policy makers must engage towards the attainment of this objective. The evidence shows that despite gains in school enrolment, Pakistan has still work to do to reach the goal of ensuring inclusive and quality education for all. The analysis in this chapter should be a permanent part of policy review and implementation. It will allow targeted strategies to reduce risks of dropout and eventually the number of out of school children. This means specific prioritised interventions for the most at risk populations of rural girls and others up the hierarchy can be designed and implemented.

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Annex 1 Methodology

The HIES is a national, provincial and rural/urban representative household survey, which is conducted every two- to three-years by the Pakistan Bureau of Statistics (PBS), Statistics Division, Ministry of Finance, Government of Pakistan. The data is collected for the period from July to June of the survey year. The sample is drawn by a multistage stratified random sampling based on Pakistan's Census of Population 1998. The smallest administrative unit for which statistics on the out-of-school population is statistically accurate is at the province and the rural/urban level. However, these numbers are not statistically accurate at the district level. The sample size ranges from 15,000 to 18,000 households. The sample survey covers Punjab, Sindh, Khyber Pakhtunkhwa and Balochistan provinces. However, the survey excludes Federally Administered Tribal Areas (FATA) that accounts for 2.4% of the national population and GB (formerly known as Northern Areas) that accounts for 0.94% of the total population. In other words, disaggregation is possible by residence (rural/urban), province (Punjab, Sindh, Khyber Pakhtunkhwa, Balochistan), age, gender, wealth quintile, ethnicity proxied by mother tongue, type of school and employment status. PSLM-HIES individual level data is available from the Pakistan Bureau of Statistics in SPSS format.

Some additional measures were also used to generate tables for the profiles of OOSC to make them consistent with the UIS methodology. Firstly, the PSLM-HIES data is collected in four quarters (i.e., more than six months after the school year starts). This discrepancy can lead to inflated out-of-school rate for primary school age children. The official primary-level enrolment date and age variables are accordingly adjusted before generating the profile tables. Going forward, collecting information on birth date in PSLM-HIES data is the solution to the problem to determine the exact age of children at the time of going to school. However, at present, PLSM-HIES does not collect this information. Secondly, the wealth index is not pre-generated in PSLM-HIES data. This report has used a share weighted index to calculate the wealth quintiles for each household. Information on assets and properties including agricultural, non-agricultural and commercial land, buildings and durable items are used to construct the share-weighted wealth index. Thirdly, PSLM-HIES records age data only at the time of the survey while the date of birth of children are not recorded. Thus, it is hard to determine the exact age of children at the time of going to school. Since the PSLM-HIES data is collected in four quarters, it can lead to some bias in the estimated numbers of out-of-school children. Finally, transition rates from primary to secondary education are calculated in line with the procedure suggested by the Operational Manual (UNICEF-UIS, 2015), which may differ from the official numbers reported in PSLM-HIES reports.

Although the HIES 2011-12 used a similar questionnaire to the other years, this data set is not used for the trend analysis in this report because errors were detected in population weights. For instance, when population weights are applied to raw data, the total population of the four provinces should be equal to the projected population for 2011-12, but it falls far short of the projected population. Consequently, the evolution of primary school-age population from 2007-08 to 2011-12 shows a decline of 7% from 19.3 million in 2007-08 to 17.9 million in 2011-12 (see, Appendix 2, Figure 2.1). Similarly, middle school-age population also shows a decline of 1% from 9.2 million in 2007-08 to 9.1 million in 2011-12. Thus, the number and proportion of out-of-school children with HIES 2011-12 is measured with error.

Chapter 4. Quality of Education

Key Findings:

- Student learning outcomes, tested through various assessments across grades, clearly emerge as poor. Most starkly, reading comprehension is very low.

- A starting weakness is inadequate school preparedness. Almost half of children below the age of 5 are stunted. Secondly, quality early childhood education to prepare the child for primary barely exists.

- Curriculum appears to show a gap between the context of learning and its expectations. The curriculum implementation framework developed in Sindh has not been operationalized to a full extent and there is no feedback on the curriculum's effectiveness and relevance.

- Classroom observation reveals a very much teacher-centered approach to teaching and learning, where the student is a "passive" actor in the classroom.

- A large number of teachers have not upgraded their qualifications from the traditional certifications, and pre-service teacher training institutions continue to be of variegated quality.

- Studies indicate that textbooks do not always fully cover the requirements of the curriculum and are not learner friendly.

- Formative and summative assessments are a regular feature in schools but there is no evidence on their quality or use in improvement of the teaching learning process. High stakes examinations conducted by the boards of intermediate and secondary education in the province induce rote learning and have a backward impact on the teaching-learning process in the classroom.

Introduction

Sindh has a learning crisis. Children in public schools (and probably in low cost private schools as well) cannot read at an adequate level, generally perform low in all subjects and do not develop critical analytical ability. The failure comes from a multitude of causes. Teaching in the classroom focuses on completion of the expected program. In fact, the student is the most "inert" actor in the classroom[59]. Within this weak pedagogic approach teachers do not attempt to develop the child's understanding. Teaching process in the classroom is not necessarily the result of teacher "incompetence" alone. It is the product of the larger system of education responsible for

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[59] Idara e Taleem o Agahi "Researching Teaching and Learning Practices in the Classroom" September 2018

development of curricula and textbooks, assessments, teacher training and supervision. Unless all aspects of the education value chain combine effectively in a student focused approach learning outcomes will not change. A diagnosis of the problem needs an analysis of all the various rungs in the education value chain: standards, curriculum, textbooks and learning materials, learning environments, supervision, support and training, and assessments.

Quality is a poorly understood concept in the education sector in the province. It has also been a low priority for policy implementers. Most of SESP's quality related recommendations have not been implemented. Unless there is a major shift in the approach the province faces another failure in terms of achievement of targets of Article 25A of the Constitution as well as Sustainable Development Goal 4.

Limited research on teaching and learning makes it difficult to assay the learning process in the classroom. Sector Analysis uses secondary data and research where possible, feedback from focus group discussions with key stakeholders and two customized studies undertaken for the purpose. The first of these looks at the teaching process inside the classroom and second assesses curriculum and textbooks of English being taught in public schools.

4.1   What is Quality Education?

Quality education has two main components: development of the child's cognitive ability, and the value system transferred. While values may have variants across societies there is a consensus on the need for development of cognitive ability. Every learning system strives to produce self-learners who can think critically. In formal education systems the ability to read with comprehension provides the medium for self-learning. Without adequate reading ability objectives of formal education systems cannot be met. Without the ability to read students cannot become self-learners. Reading has to be understood to include reading comprehension and fluency – "from learning to read, to reading to learn".

Sindh's extant curriculum has been based on Bloom's taxonomy. By extension, it should be the basis of all teaching, textbooks and learning materials and assessments. There is a general agreement among educationists that children in schools in Sindh (and most of Pakistan) do not develop higher order thinking and teaching and learning is mostly at the lowest rung of "remembering". Most importantly the examinations developed by the boards of intermediate and secondary education also test memory and encourage rote learning.

4.1.1 SDG-4 and Quality

There has been a global realization for increased focus on quality of education – children need to learn. A clear departure has been made from the earlier Millennium Development Goals (MDGs) and Education for All (EFA) where, at least in the latter, quality requirements were more implicit. Resultantly, most countries focused on expansion of access.

Goal 4 of SGDs specifically mentions quality and has at least three targets that directly or indirectly address issues of learning. These emphasize the importance of literacy and numeracy, knowledge and skills to promote the right global values and teachers.

<u>Literacy and Numeracy</u>

ASER data, discussed in detail later in the chapter, clearly reveals a reading crisis. The ability to become successful self-learners depends heavily on the ability to read with comprehension. Target 4.6 of the SDG 4 reads as follows:

"By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy"

The target emphasizes literacy for all age groups. Implementation of this indicator will require increased emphasis on reading in primary schools, as well as, further focus on reading in middle and secondary to recover deficiencies developed. In parallel, adult and youth literacy programs will need to be strengthened and expanded.

<u>Sustainable Development and Global Citizenship</u>

The targets call for development of knowledge and skills needed to promote universally agreed global values:

"By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development"

The above will require a detailed analysis of the curriculum and textbooks to ensure these values are inculcated within the local context. Some of these are already themes in the curriculum. A measurable indicator will need to be developed.

<u>Qualified Teachers</u>

SDG 4's target 4C reads as follows: *"By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States"*

Technically all teachers in the system are qualified. Recruitment criterion of the government have always required some certification and degree. Problems arise due to lack of standardization of teacher education. Resultantly, qualified teacher does not necessarily mean that the teacher has the requisite abilities.

The target will have to be read very carefully and re-interpreted in the context of Sindh where qualification does not always translate in ability. Possible solutions may include licensing of teachers and accreditation of the teacher education programs[60].

4.2   Progress on Quality Pillars of SESP 2014-2018

SESP 2014-2018 prioritized six elements as a way to ensure improved quality: (i) a common curriculum based on the holistic development of the child; (ii) content and process that are student-centred and non-discriminatory; (iii) teachers professionally qualified, performing a facilitator role; (iv) a learning environment which is safe, disciplined, physically facilitating and inclusive; (v) assessment systems that provide support to classroom-level teaching using both summative and formative approaches;

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[60] National Accreditation Council for Teacher Education (NACTE) already has the mandate. Impact of implementation is unclear.

and (vi) measurable outcomes that provide the basic skills required for positive adaptation to society and economy.

There has been some progress in the quality-related targets of SESP. These have been, similar to access and participation, mostly on development of policies and other documents. On the ground, improvements in terms of student learning still cannot be seen. Table 44 below shows progress against salient policy pillars, objectives and targets of SESP 2014-2018. More detail is provided within each of the sections in the chapter.

Table 44. Progress on main objectives of SEPS 2014-2018 related to quality

Policy Pillar	Objectives	Targets 2018	Achieved
Quality assurance and standards for educational inputs, processes and outputs will be determined by an independent provincial authority for standards and performance assessment	To adopt a set of quality standards for primary and secondary schools	Implement approved set of quality standards in selected primary and elementary schools by June 2018	Committee on standards notified Standards on teacher education and ECE developed
	To adopt a set of Quality Standards for Secondary and Higher Secondary schools	Implement minimum quality standards in selected schools (at least 50%) by June 2018	Not implemented
Curriculum development will be outcomes-based and will focus on developing knowledge, skills and values and providing for self-directed learning skills of inquiry, critical thinking, problem solving, teamwork, leadership and citizenship. Reading skills will be a priority during early grades. Language of instruction and measures to ensure the availability of grade-level reading books will be carefully reviewed and appropriate policies developed	To review and revise the ECE curriculum and provide appropriate learning materials	Dissemination and use of ECE Teaching and Learning Manuals by June 2018	Dissemination still to be undertaken
	Develop a contextually relevant and broad-based curriculum	Curriculum enrichment manual is developed and implemented	Curriculum revised and revised for all subjects till grade 11

	Improve the quality and relevance of learning through curriculum and learning materials development in NFE	Improved materials are available to use and being used by 2015	NFE curricula for primary level courses completed and notified
Assessment and evaluation will be integral parts of the teaching and learning process and will be undertaken not only to measure the attainment level of a child but as a development mechanism, using a combination of both formative and summative evaluation	To improve learning outcomes through implementation of formative assessment in schools	Capacity development of teachers to implement formative assessment and increase average assessment scores from 32% in languages to 60%, 19% in science to 45%, and 15% in mathematics to 40%	Capacity of teachers in formative assessments remains low. Scores as of 2016-17: Language 32.5%; mathematics 25.41%; science 21.15% (All below target) Assessment policy for Sindh is developed and notified A first round of teachers in notified clusters of the regional headquarters completed. PEACe is supporting the training of teachers through a decentralized system involving district-based assessment experts.

	Improve the examination system at Secondary and Higher Secondary level	Improve the quality of teaching and learning (on-going goal) as well as enhancing the quality of paper setting, scoring and conduct of examinations	Assessment and examination policy have been notified but no information is available on improvements
Management of teachers' selection, recruitment, deployment, promotion, transfers, professional appraisal, rewards and discipline will be undertaken by STEDA to help strengthen teacher accountability and performance	To recruit ECE teachers	Recruitment policy developed and approved by authority (STEDA) and 2667 teachers recruited by 2018	Addition in teachers lower than required
	To train ECE teachers	In 2018, 2667 and 1833 teachers provided induction and CPD training respectively.	To be confirmed
	To recruit qualified teachers according to merit and needs	45,475 Primary school teachers recruited and 26,605 additional teachers recruited for elementary during 2014-2018

11,287 HST and 8,463 teachers at Higher Secondary recruited | Recruitments lower than targeted |

| | Build the capacity of literacy and NFE teachers to contribute to improved learning outcomes on a continuous basis | 100% new teachers participate in induction programme

NFE teachers undergo in-service training on a continuous basis | Induction trainings conducted for NFE teachers |
|---|---|---|---|
| Career guidance and counselling will be introduced at the secondary level. Employers will provide information about job openings and the nature of work and will review courses at secondary level with a view to making them more relevant to the needs of the labour market. | Facilitate students in their career choices and help with psychological issues | 100 % Secondary and higher secondary schools have at least one staff member educated in career and psychological counselling skills (basic level) by 2015 | Counselling to students not available |

On the more specific areas of teacher education and professional development the key recommendations of SESP 2014-18 and their achievement are detailed in Table 44a below:

Table 44a. Key issues related to teacher education and professional development in SESP 2014-2018

Issues	Details	Achieved
Quality of Initial Teacher Education (ITE) or Pre-Service Teacher Education (PSTE)	Insufficient institutional capacity to implement teacher development initiatives, e.g. capacity of TEIs in terms of:

-Physical infrastructure and resources

-Quality of faculty/teacher educators

-Quality of intake

-Quality of teaching learning processes | Minimal improvements as the overall quality of graduates continues be poor. There is need for faculty development. |
| **Quality of Continuous Professional Development (CPD)** | • Lack of comprehensive CPD framework to guide in-service TE
• Sporadic programmes, both by government and donors, designed in response to the requirements of donors and sponsoring agencies, rather than to meet the needs of the Education Department
• Lack of support mechanisms for faculty to effectively execute the teacher education development programmes or to implement their learning from the programmes
• Conservative approach to teacher development in place of teacher development as a life-long learning process of growth and development as reflective practitioners. | CPD has been designed but not implemented effectively due to budget constraints.

Capacity of PITE also needs improvement. |

Another critical set of inputs for quality of education are curriculum and textbooks. The specific recommendations and progress for these are given in Table 44b.

Table 44b. SESP 2014-2018 objectives for curriculum and textbooks and status of achievement

Activity	Achieved
To develop relevant, comprehensible and transparent curricular targets to achieve learning outcomes, responsive to the current and emerging needs and challenges.	It is not clear how this objective unpacks. Development of "relevant, comprehensible and transparent" curricular targets would require a complete review of the curriculum. Curricula till grade 11 have been revised from the 2006 Curriculum.
To develop a Curriculum Implementation Framework and a mechanism for systematic and continuous curriculum improvement.	Curriculum implementation framework has been developed (implementation has been limited at best). This is an annual activity, but after 2014 there is no evidence of the implementation framework being revisited and prepared for different categories
To develop the capacity of key institutions for improved curriculum, and provision of quality textbooks/learning materials.	Some basic capacity development may have been undertaken but this requires a more comprehensive reform. Discussed in more detail in the chapter on governance and management.

Other important steps not taken include:

- Availability of curriculum in Sindhi and Urdu version.
- Availability of curriculum in all three versions (English, Urdu and Sindhi) to all stakeholders.

Specifically, the following steps were taken:

- Development of guidelines for Constitution of Curriculum Development Committee(s) for subjects of Grades ECE- XII based on the new curriculum.
- Development of guidelines for Textbook Authors, Resource Material Developers, teachers, supervisory personnel, community members and students.
- Constitution of working group for taking legislative measures to establish an organization for curriculum development and assessment. The Sindh School Education Standards and Curriculum Act 2014 was passed by the Sindh Provincial Assembly on 9th January 2015. This act is available on the website of BoC, RSU and School Education Department.
- Approval and publication of the guidelines for reviewing curriculum, improving textual/instructional material and learning environment, based on assessment studies.
- Development and activation of the curriculum authority website and uploading of the curriculum.
- Availability of a Scheme of Studies for the Primary Level (I – V) and shared with all DSEs (Primary) and DEOs (Primary) in Sindh.
- Orientation of Textbook developers on new curriculum and textbook policy.
- Development of Textbooks of grades ECE to 12 in accordance with the plan in the Curriculum Implementation Framework.
- Dissemination of textbooks for grades ECE to 12 (phased-in approach), to all eligible schools and other stakeholders.

- Review and notification of textbook and material development policy.

As already stated above there has been very little progress on the various targets. Since the development of SESP 2014-2018 a few more things have come to the fore due to fresh data on the problem. One of these is the child nutrition status. Stunting has emerged as a major problem wherein almost half of the children below the age of 5 suffer from the problem in Sindh – in many cases irreversible. Child preparedness should include early interventions on health. Development and implementation of standards was included in the Plan but these were limited to specific areas. There is a need for a more comprehensive standards regime. With the passing of Curriculum and Standards Act 2014 it has become mandatory. Assessments are another important area not adequately covered in SESP 2014-2018. Especially, the poor quality of high stakes of board examinations have a lot of impact. There is a general trend of rote learning throughout the teaching, assessment and learning process. These issues will be analysed in the next sections.

4.3   Framework for Analysis

The problem statement of quality education is a simple line: learning levels of students are very low. The end product is the result of the inputs and processes involved in education service delivery? Where lies the problem? A simple answer would not suffice. Normally teachers get the blame. Teachers are not independent actors. Teaching and learning are a product of multiple actors and inputs. All need to be assayed, independently and as a connected whole.

The analysis in this chapter has been based on a value chain approach and divides learning paradigms into pre-primary, primary and post-primary. The analysis looks at a set of problems. Learning remains at the top of the problem set. While all other inputs into the learning process potentially become causes, they have been analysed as sub-problems with their own causative chains (with recognition of reforms initiated). These sub-problems and their causes have been analysed in detail. Predictions of learning begin before the child enters school. Preparedness for school begins from child's health. This is followed by what happens in the classroom with a backward working into various inputs that influence the classroom experience.

Figure 27. The value chain approach in education
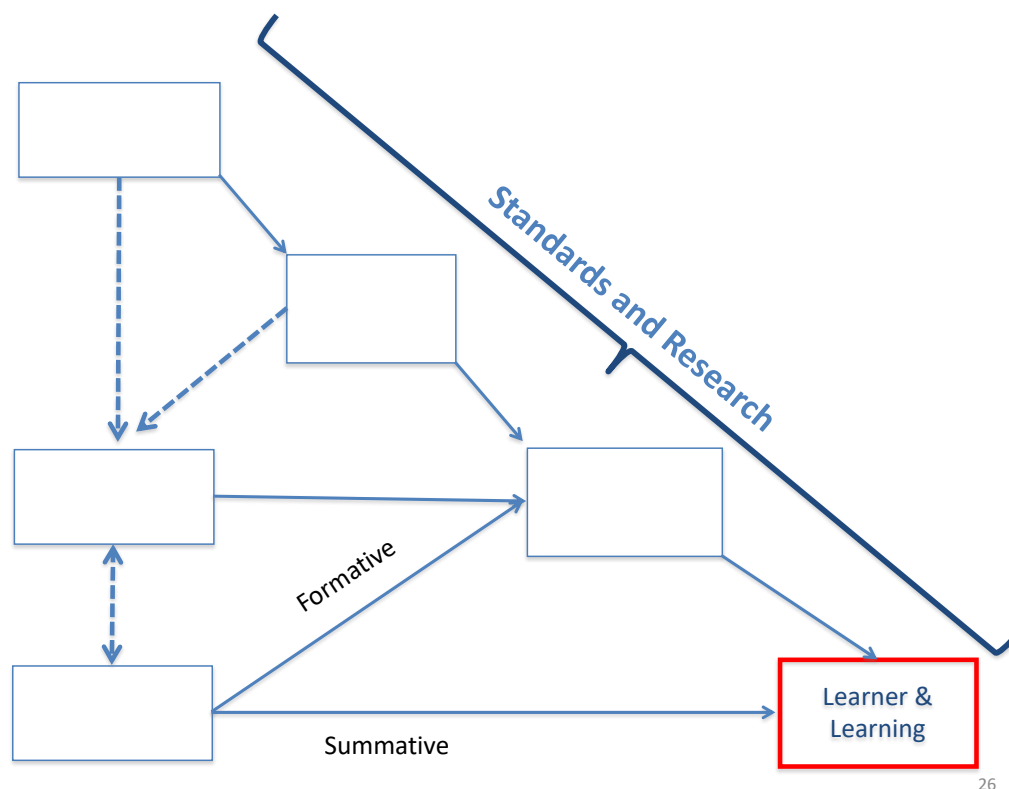
Education is a living system. It evolves through learning. All the different parts of the value chain communicate with each other. In the absence of this communication a disconnect emerges where different parts of the system become incompatible. Resultantly, the learning process fails to match the needs of the learner. Sindh education system provides a stark example of a disintegrated education system.

4.4   The Learning Scorecard

All the various assessments of students in Sindh have shown very poor learning outcomes and weak literacy and numeracy. Teaching in the classroom mostly uses the rote memory approach. This means higher order thinking does not develop among children. Reading ability, even in the mother tongue, is weak.

A very small percentage of children who begin education in the school system manage to complete it. By secondary examinations only about 20% of the original cohort from grade 1 are left in the system. Nearly 30% of these fail the exam and only about 20% score reasonably enough to have some career prospects. This despite aspersions on the quality of the secondary examinations conducted by the boards.

The various assessments prior to secondary examinations predict the eventual results. The SAT examinations, results from Provincial Examination Assessment Centre and Annual Status of Education Report agree on the poor learning outcomes.

The problem begins with the primary level. Main requirements for the primary level are acquisition of literacy and numeracy skills and cognitive development. Normally by grade 4 the child should be able to have enough mastery of reading to be able to "read to learn". This does not seem to be happening

for an overwhelming majority of students. Results from the household-based ASER assessment show that children in rural areas of Sindh have very weak literacy and numeracy skills. The poor results not only reveal the quality of teaching and learning at primary level but also predict the child's future in education.

Table 45. Learning levels of Class 3 and Class 5 children in rural Sindh, 2012-2016 (Percent)

	Class 3			Class 5		
	Who can read a sentence in Urdu	Who can read a few words in English	Who can do Subtraction	Who can read a story in Urdu	Who can read a sentence in English	Who can do division
2012	33.8	24.7	22.2	40.3	25.4	26.9
2013	33.0	28.4	24.2	41.2	25.2	29.4
2014	36.8	27.9	29.6	41.0	23.6	30.5
2015	36.1	29.6	34.8	45.3	24.4	35.3
2016	25.3	19.6	22.6	36.6	18.7	24.3

Source: Annual Status of Education Report (ASER, 2012-2016)

Table 45 above shows the literacy and numeracy skills of children at levels of grades 3 and 5. These scores are very low. The results are reasonably consistent across years with only marginal improvements in 2014 and 2015 in some of the skills. The latter may have been due to different samples and it is not clear whether these differences are even statistically significant. Moreover, the measures decline across all competencies in 2016 and it's not clear if this is a trend or a measurement issue. Looking at the 2015 results only 36% of children of grade 3 level could read a sentence in Urdu and only 34.8% could do subtraction. These competencies fell in 2016 to 25.3% and 22.6%, respectively. In grade 5 only 45.3% children could read a story in Urdu and 35.3% could do a 2-digit division in 2015. Again, these two figures dropped in 2016 to 36.6% and 24.3%, respectively. In addition, a marked difference can be observed in basic literacy and numeracy competencies between boys and girls, where boys perform better than girls.

In English, the results are even more dismal. This is not surprising as both the students' natural endowment and teacher capacity advise against introduction of English language as a subject at this level. Details are discussed below.

Scores of diagnostic assessments by the Provincial Education Assessment Centre reveal a similar situation. Students on average have not scored more than 41% in any subject, except Sindhi. Some improvements can be observed between 2015 and 2017 in Math, but the inverse happens with the Language subjects.

Table 46. PEACE assessments in Grade 3 by subject, 2015 and 2017 (Percent mean score)

	SCIENCE	MATH	SINDHI	URDU	ENGLISH	OVERALL
2015	40.61	31.64	49.62	39.29	40.31	40.29
2017	-	45.27	43.50	34.93	-	

Source: DCAR

Another key performance indicator for student learning outcomes are the SAT results. These assessments are taken by the Institute of Business Administration (IBA), Sukkur. Table 47 shows the scores for SAT of grade V students for each of the years from 2013-14 to 2016-17.

Table 47. SAT scores in Grade 5 by subject, 2013-14 to 2016-17 (Percent)

	2013-14	2014-15	2015-16	2016-17
LANGUAGE	29.50	32.81	32.32	32.80
MATH	17.09	18.22	23.61	25.41
SCIENCE	17.74	15.26	23.18	21.45

Source: Sukkur-IBA, 2013, 2014, 2015, 2016

Targets were set in SESP 2014-2018 for SAT scores. SAT reports of grade 5 assessments show that students scored less than the target in Language and Science by 2015-16, however, they performed better in Mathematics (23.61%) than the target (21%) for that year. Similarly, 2016-17 scores depict that Sindh is far behind in reaching its target in Language (45%) and Science (32%) for 2018, but it has surpassed the target set for Math (25%). From 2014 onwards, students' scores in Language have stagnated, signifying that there has not been any improvement in students' acquisition of Language since 2014. Overall, student performance in the three subjects has been very low.

Analysis of the SAT data disaggregated by region shows better performance of students in Karachi and Mirpurkhas compared to the students in the other three regions (see Figure 29). Average scores of the students from Karachi and Mirpurkhas are approximately the same for the three subjects, with students from Karachi scoring higher than the students from Mirpurkhas in Language, while the opposite is observed for Mathematics. Nevertheless, it is worth noting that Sukkur, Larkana and Shaheed Benazirabad regions experienced increases in overall scores of more than 30% between 2013-14 and 2016-17.

Figure 28. Overall SAT Scores in Grade 5 by region 2013-14 to 2016-17 (Percent)
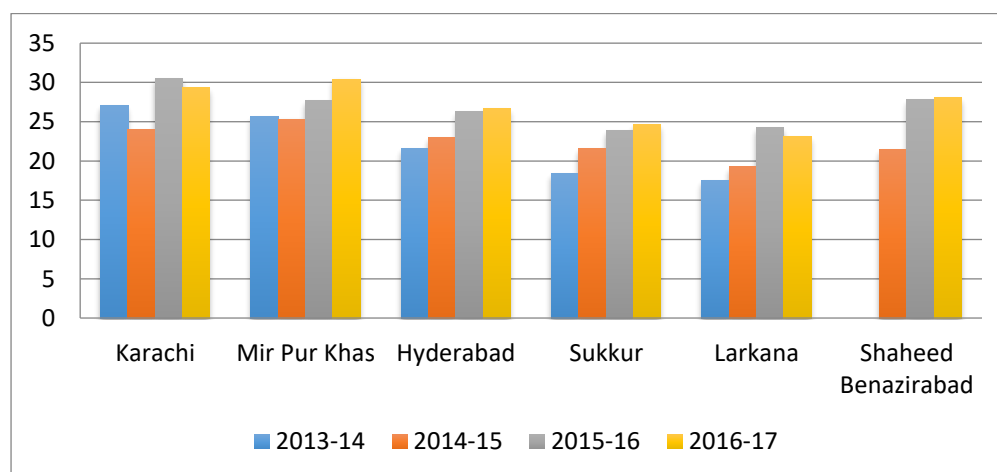
Source: Sukkur-IBA, 2013, 2014, 2015, 2016

Table 48. SAT Scores in Grade 8 by subject, 2013-14 to 2016-17 (Percent)

	2013-14	2014-15	2015-16	2016-17
LANGUAGE	37.01	40.48	37.58	39.85
MATH	13.73	17.62	22.37	20.93
SCIENCE	17.07	17.17	24.87	25.89
OVERALL	**22.60**	**25.09**	**28.27**	**28.89**

Source: Sukkur-IBA, 2013, 2014, 2015, 2016

Table 48 shows SAT scores for grade 8 during the period of 2013-14 to 2016-17. Language scores improved marginally from 2013-14 (37%) to 2016-17 (39.85%). Mathematics scores improved until 2015-16 and then declined in 2016-17 although they have improved from the base value of 2013-14 by about 7 percentage points. The greatest change was in Science where scores showed marked improvement in 2016-17 (25.89%) as compared to the baseline (17.07%). The upsurge took place in 2015-16.

Overall, the results in grade 8 have also been low, even though slightly better than grade 5. This 'improvement' has to be interpreted with caution. By grade 8 a large proportion of students have already dropped out. Only the more resilient remain. Their ability to continue in the system may be supported more by home factors than better teaching and learning in schools. In order to assess the relative impact of school-related factors the assessment would need to be accompanied by a study of associated factors.

Students from Mirpurkhas performed slightly better than students from Karachi for most of the Grade 8 subjects in the years 2013-14 to 2016-17. Karachi, Hyderabad and Sukkur registered an increase in overall scores above 30% in the same period. Despite some improvements, student performance across all the regions continues to be low, with Larkana region showing the lowest scores in all the subjects across the four-year period.

Figure 29. SAT scores in Grade 8 by region 2013-14 to 2016-17 (Percent)
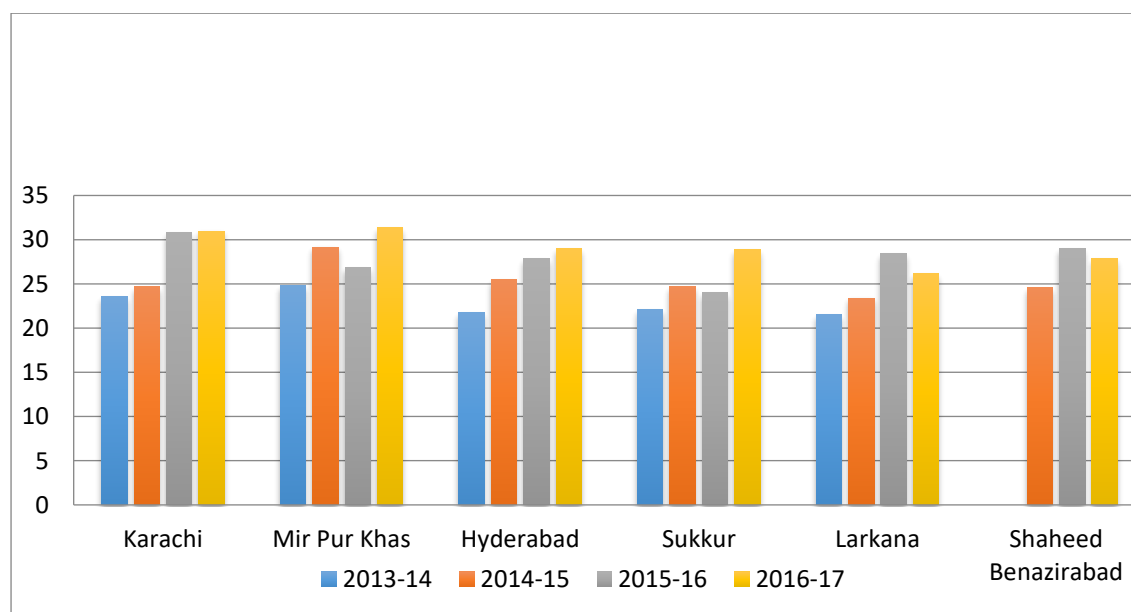
The highest stakes assessments in the province are conducted by the boards of intermediate and secondary education. Table 49 shows the results of secondary school examination from Sukkur Board of Intermediate and Secondary Education. In the three years for which the results have been presented the range of failure is from 24% to 30%. High achievers hover around 20%. The smaller percentages registered for girls have to be interpreted carefully as typically the ratios of boys to girls is 60:40 in these examinations. The table shows A and A+ as high achievers, pass as those who have cleared the examination in grades less than A and A+ and then the remaining who have failed.

Table 49. Results of the Secondary School Certificate (SSC) in Science, 2014-15 to 2016-17 (Percent)

Grades	2014-15			2015-16			2016-17		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
A & A+	20%	12%	9%	25%	16%	10%	22%	14%	9%
PASS	50%	35%	15%	50%	36%	14%	54%	38%	15%
FAIL	30%	20%	10%	25%	19%	5%	24%	19%	5%

Source: BISE Sukkur

A few things need to be considered in the interpretation of these results. By secondary school level only about 20% of the students from the original cohort remain in the system. Secondly, there are serious allegations of endemic cheating in these examinations. It will be difficult to determine the situation if these examinations were absolutely fair. However, even within these limitations about 25% to 30% students fail these examinations. For all who fail and even those who pass in lower grades the results seal their future in education. These board examinations are discussed in greater detail later in this chapter.

The results of various assessments above show dismal state of learning. Yet, they only present a linear picture. Data on higher order thinking skills is not available but most key informants agree that the entire learning value chain reinforces rote learning. There are clear weaknesses in literacy and numeracy and basic content knowledge of critical subjects like mathematics and science.

4.5   The Classroom Experience

A study was commissioned as part of this Education Sector Analysis to look at various aspects of teaching and learning in the classroom[61]. An important component of the study was classroom observations, using the SABER-TEACHING tool. Some critical findings of the study are:

i.   Teaching in most classes is "teacher centred" and not student centred. Students were found

      to be "passive" participants of the experience.

ii.   Teachers were engaged in covering content and needs of the learners were ignored.

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[61] Idara e Taleem o Agahi "Researching Teaching and Learning Practices in the Classroom" September 2018

iii.   There were very few cases of activity-based learning and even in those actions were "procedural" at best.

iv.   Teachers did not spend time on higher order questioning and classroom observations scored low on this aspect.

Figure 31 below has been reproduced from the study. It shows that the lowest scores were on teachers' adjustment to level of the students.

Figure 30. Checks for understanding
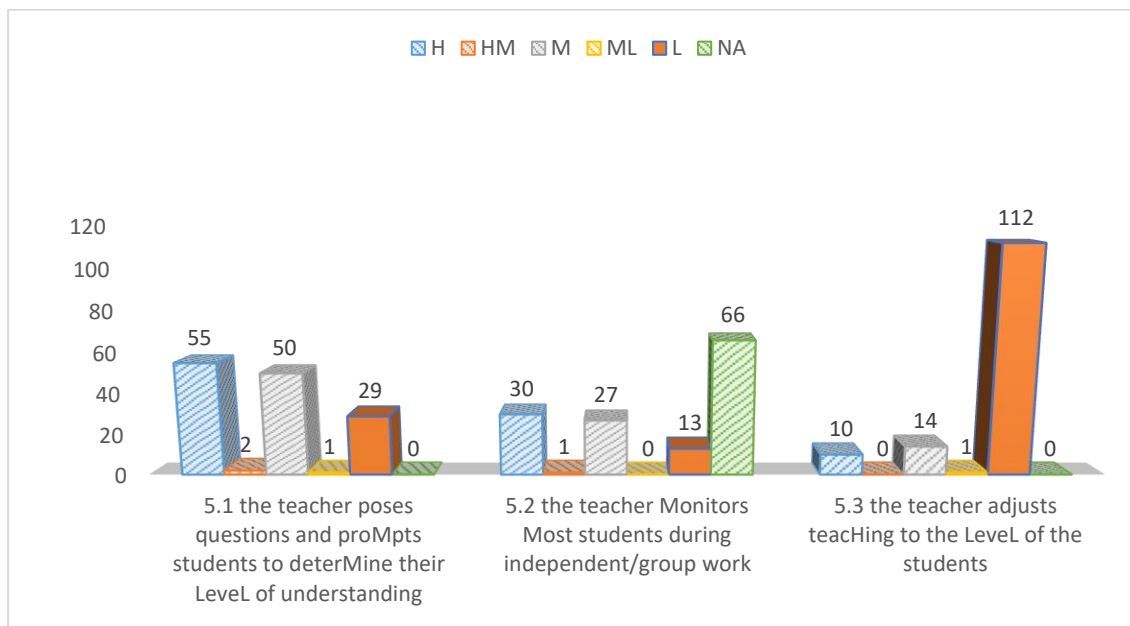
The study states:

"Clearly there is a cause for concern when 'critical thinking and care' are low performing elements in the teaching learning practices in the classrooms of Sindh."

The study does not detail causes of the problem although it looks into aspects of professional development and identifies the extremely low coverage in Sindh. Limited professional development opportunities should be a cause of concern but may not be the most critical factors in "poor teacher performance".

The study also concludes that teacher motivation to work may not be the biggest issue. Teachers primarily complained of non-involvement in feedback on curriculum and textbooks. This resonates with an earlier study in 2014[62].

The results of the study reveal serious pedagogic issues in the classroom. An inquiry into the causes will require more research. It is important to consider that teachers themselves may not be the only, or even the biggest, problem.

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[62] Alif Ailaan; "Voice of Teachers" , 2014

Multi-grade classrooms, curriculum and textbooks that ignore the context of the learner and supervisory practices all contribute to the classroom process. If the supervisors are more interested in syllabus coverage and less on student learning the results will be similar to the ones seen in the study. Potential impact of multi-grade classrooms in Sindh, on learning, has been discussed in more details in the next section.

4.6 Some of the Causes of Poor Learning

Student's ability to learn begins to get impacted from birth. The state of readiness of the learner is a critical predictor of performance. How prepared is the child for school? This has two dimensions: the preparedness before starting school and the daily preparedness on becoming a regular student. The rest of the factors become operational once the child is in school. These factors include curriculum, textbooks and learning materials, learning environment, teachers and teaching quality, and assessments.

> *"School based examinations mostly require students to regurgitate content from the textbook – not analyze, evaluate or create something new. The textbooks are often viewed as the real curriculum. The textbooks generally contain few if any high order thinking tasks. Teachers are not rewarded for innovative teaching which promotes high order thinking skills because higher order thinking is not required for most external examinations. – which may lead to the bizarre situation where because the innovative teacher has spent less time on practicing low order thinking skills the students perform poorly in the examinations and consequently the education officials, school administration and even parents will punish them for failure. The consequences are that teachers feel they have no other choice than to focus on low order skills like rote memorization so as to cover the content and have students achieve good results."*
>
> *Sindh Education Student Learning Outcome Frame Work 2015*

Absence of a comprehensive operationalized set of quality standards and an underutilized (or dormant) research function are cross-cutting causes. Given the integrated and complex nature of education delivery the above form a central set of causes but do not exhaust all reasons. Many causes, or sub-causes, of failure lie in governance and management approach, processes and capacity. These have been discussed in a separate chapter.

4.6.1 Poor Student Preparedness for School

Psychological and physical health of the child, even before entering school, contribute to the child's learning ability. This is followed by the type and quality of early schooling. According to National Education Policy 2009, children should begin pre-school at age 3. Practically, in Sindh most children do not enter school regularly before the age of 6 or 7. In these formative years already the basis for ability to learn have been formed.

Child Health

"Schools cannot produce learning without prepared, present, motivated learners. Around the world, many children receive too little investment in nutrition and stimulation during their early years, and many lack access to quality early learning opportunities that can prepare them for first grade. The one in four children worldwide who are stunted cannot achieve their potential in school."[63]

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[63] "World Development Report 2018: Learning to Realize"; World Bank 2017

Brain development is fastest from pregnancy to age 6. The brain is also the most malleable in this period[64]. Childhood experiences and nutrition provide an early basis for lifelong learning. Harsh discipline, poor support and protection and low nutrition are some of the factors that impact the child's, eventual, ability to learn. Many of the social factors that impact children in Sindh have not been researched. However, global research shows that poor children are most vulnerable to neglect and harsh social and other environmental conditions[65].

Almost one-half of children below the age of 5 in Sindh are stunted[66], even more so in rural areas than in urban centres. Stunting can result from inadequate nutrition, as well as poor quality of water. The latter results in frequent diseases like diarrhoea that drain away essential nutrients. Other factors like maternal health and hygiene also play an important role. Moreover, 40.2% of children below age 5 are underweight, rising to over 51% among children in rural areas[67].

The Government of Sindh has recently launched the "Accelerated Action Plan for Reduction of Stunting and Malnutrition (AAP)" that plans to reduce stunting from 48% to 30% by 2021 and to 15% by 2026. In 2017 the World Bank agreed to finance the "Sindh Enhancing Response to Reducing Stunting Project". These projects use a multisectoral approach to combat stunting. While children of such young age do not enter school the School Education and Literacy Department has a strong stake in improved child health. Therefore, it needs to work in coordination with the Health Department for overall early childhood development.

The coordination needs to continue even after the child has entered school. Children may have health issues that hamper learning either due to the physical impact or it may be a learning disability. Systems to screen child health in school are limited and even in these cases there is no follow up. In one national study teachers[68] pointed that many children arrive at school without breakfast or an adequate meal. Their concentration span does not exceed the first 30 or 40 minutes of school.

Early Childhood Education

Quality early childhood education plays an important role in preparation of the child for school. Pre-literacy and pre-numeracy skills, among others, are developed at this stage. Unfortunately, number of quality early childhood education options for children in Sindh are very few. The numbers of centres and teachers promised in the SESP never materialized (details provided in chapter 2). Early childhood education continues to be a poorly supported, and understood, area. Even as Sindh has developed a policy on early childhood education implementation has been negligible. Recently, a curriculum for ECE was also developed but without trained teachers and spaces the program cannot expand into the very limited number that already exists.

The story of ECE has been of failure across Pakistan. It has not gained the requisite level of traction in terms of implementation.

4.6.2 Issues related to the Curriculum

Effectiveness and relevance of curriculum to the learning context of the child have not been researched. This limits an analysis of the curriculum. A small study conducted for the ESA on English language is, at best, indicative of the issues. In fact, the most eminent gap has been the failure to

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[64] *Ibid*

[65] *Ibid*

[66] "Sindh Accelerated Action Plan for Reduction of Stunting and Malnutrition"; Sehatmand Sindh, Planning and Development Board, Task Force Secretariat for AAP, Government of Sindh; 2018

[67] Demographic and Health Survey Pakistan 2016-17.

[68] "Voice of Teachers"; Alif Ailaan 2014

oversee appropriate implementation of the curriculum and to develop a feedback loop. The institutional gaps discussed in more detail under the governance form the most critical gap. Even if the current curriculum is replaced the province may not have the requisite capacity for effective implementation.

This section assumes that some responsibility for poor learning outcomes lies with the curriculum as indicated by the analysis of the English language curriculum. There is evidence that points to disconnect with on ground needs of the learner. However, in the absence of critical research it is difficult to find exact gaps in curriculum.

Institutional Changes

Prior to the 18th amendment to the Constitution of the Islamic Republic of Pakistan the operative law for curriculum development was the "Federal Supervision of Curricula, Textbooks and Maintenance of Standards of Education Act 1976". As part of the implementation requirements of the amendment the province had to pass a law to replace the federal statute. Sindh provincial assembly passed the Sindh Curriculum and Standards Act 2014. The law defines institutional arrangements and processes for curriculum development and also mandates essential requirements like standards and research.

Under the law the older Bureau of Curriculum and Extension Wing (BCEW) was restructured as the Directorate of Curriculum Assessment and Research (DCAR). The law also introduced the Curriculum Wing of the School Education and Literacy Department (SELD) and the high-level Curriculum Council. Operational work is undertaken by DCAR with the policy level oversight by the Curriculum Wing. All revisions in curricula are eventually approved by the Curriculum Council. Presently, the capacity of the DCAR and Curriculum Wing is limited due to shortage of qualified human resource (discussed in more detail in the governance chapter).

DCAR has also been assigned tasks in standards and assessments that have been discussed later in the chapter under the relevant heads.

Recently, DCAR has completed revision of curricula up to grade 11. Besides curriculum documents and textbooks another important document is subject wise syllabi. In Sindh this exercise has just begun.

Gaps in the Current Curriculum

The Development Process

A major curriculum development exercise was conducted in 2006 by the Curriculum Wing of erstwhile Federal Ministry of Education. Revisions of curricula by DCAR have been built on the same document. Structurally the curriculum is considered to be an improvement on the past and conforms to the internationally accepted norms. There have been questions on relevance to the context of the learner. No research has been undertaken to assess the relevance as a whole. While evidence on relevance of the curriculum is sparse, due to lack of sufficient research, indirect inferences can be made – albeit with caution. In the past the curriculum was developed through a very centralized process. Sindh has made some revisions in recent past, especially, with reference to review of material that may trigger low levels of tolerance.

Curriculum development, historically, has been a closed process. "Experts" of curriculum involved do not use research or interact with the world of work to recognize the context of the learner – in terms of the latter's endowments as well as potential needs of the market. SESP's emphasis on transparency

were partly to overcome this gap. However, at present, in Sindh also, processes to assess the context of the child are missing.

English Language Issues

Within the limited evidence on the efficacy of the curriculum criticism has been particularly targeted at the English language curriculum.

> **Box 7. Teaching and learning in the mother tongue**
>
> Sindh is the only province in Pakistan that uses mother tongue as medium of instruction. Sindhi is used as MOI in rural districts and Urdu in specified urban areas. Research advocates this as the best approach from a learner's perspective. The spanner in the spokes has been introduction of English as language right from grade 1. Firstly, the language has been introduced as L2 but with a high level of proficiency expectations. Secondly, teachers have no capacity to teach English. Any language has to be learnt in terms of the following skills: understanding (through listening), speaking, reading and writing. Children with no background in English language cannot be expected to become readers at such an early stage. ASER scores in the language are not surprising. English language introduction in grade 1 only adds to pressure on the child (and the teacher) at the cost of learning fundamentals like literacy and development of cognitive ability. Any curriculum or learning material designed without cognizance of students' natural endowments in early years and system capacity, will fail. In fact, it will be counterproductive.
>
> Unfortunately, Sindh Reading Program found a very high percentage of "zero readers" in schools even in the mother tongue. Here despite the right selection of language the child has not learnt. Obviously, factors other than curriculum are at play. A study conducted as part of the ESA had a number of findings on English curriculum and textbooks. These include textbooks prescribing use of grammar method instead of communicative. The findings from FGDs in the field, that included teachers, had the following key points:
>
> - The SLOs need to be simplified so that the teachers can comprehend them
> - The number of SLOs need to be rationalized keeping the time and human resource constraints in view
> - Progressive development of language should be ensured from one level to the next
> - Reduction in the number of tiers, i.e. competency, standards, benchmarks, SLOs, as this would make it easier for the teachers in the field to understand the curriculum document and, in turn, to implement it
> - Phonics should form the basis of SLOs at the initial level
> - SLOs should reflect that all skills should be taught in an integrated manner and grammar should be taught through these skills, not in isolation
>
> These are important points to consider, especially, simplification of SLOs to enable teachers to comprehend. The above is based on feedback from a very limited number of teachers and does not clarify the teacher competency in the context of "simplification". More critically the study does not consider the natural language endowments of the child, especially, in early grades. It has to be the basis of the eventual language policy and curriculum.

The curriculum of English Language was reviewed in 2016. The review resulted in some changes in the 2006 curriculum and added ECE while simplifying some student learning outcomes and adding a few

additional ones as well[69]. It has been designed, from the primary level, for children with high levels of proficiency in listening and speaking. The reality of the child's language endowments and environment have not been tested against the specified SLOs and benchmarks. If ASER data is an indicator, then a majority of children fail to read a story with comprehension by end of Grade 5. Reading and writing English are introduced as early as Grade 1. The approach needs to be reviewed keeping in view the reality of children in public and low-cost private schools in Sindh (and the rest of Pakistan for that matter).

For curriculum at higher levels, again it will not be possible to comment on relevance and quality due to paucity of research. Some insights are available on the basis of very limited studies.

Implementing the Curriculum

The Curriculum Implementation Framework (CIF) for Sindh was developed by the Directorate of Curriculum Assessment and Research (DCAR). CIF calls for curriculum to be effectively utilized in development of textbooks and learning material, teaching and teacher training and assessments. Practically, it is being used for textbook development only. Dissemination to teachers still requires major effort.

Many teachers and other important members of SELD have never seen a curriculum document. Even the examinations prepared by the boards of intermediate and secondary education barely use the curriculum – examiners use the textbooks instead.

To assist the ESA a study was conducted on English language curriculum by two experts. The study reviewed gaps in curriculum and textbooks. While some of the findings are specific to English language issues, others may be applicable to other subjects also. These include:

- Not even 50% of SLOs of the curriculum are covered in the textbooks. The study states that

  this may be due to ambitious SLOs in the curriculum.

- Curriculum expects too much from teachers and learners, especially, in the context of Sindh.

- Textbooks for grades IX to XII are "old and outdated"

- There is monotony and repetition in textbooks

- Curriculum guidelines are not followed properly in development of textbooks.

The study has been based on the 2006 curriculum and textbooks developed on it. Only in the case of grades IX to XII textbooks are based on Curriculum 2002. This depicts the position in the field as Sindh has only recently revised curricula and so far, these have not been implemented.

The findings explain a lot about the system of curriculum and textbooks in the country (including Sindh). It indicates losses in the purport of the curriculum as it gets translated into textbooks. Further losses in teaching and examinations are not documented in any public research. It has been 12 years since curriculum 2006 was introduced. There have been very few critical studies. None have been undertaken in detail either for the curriculum or the textbooks. If the curriculum implementation

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[69] http://bisep.com.pk/downloads/curriculum/Grades-I-XII/pk_al_eng_2006_eng.pdf accessed on 8th December 2018

framework had been implemented then the above findings would be more regular and in greater detail. Also, they could have been used for improved effectiveness of the curriculum cycle.

4.6.3 Textbooks and Training Material

A greater, or at least more discernible, problem relates to textbooks. There have been no structured studies on textbooks in Sindh, only some newspaper articles critical of their quality. However, a national study from 2011 (which appears dated but still relevant) sheds some light on the quality of textbooks[70]. The books subject to the study were prepared by the respective provincial textbook boards and approved by the Federal Ministry of Education. As no major capacity improvements have been realized, and many of these books are still being used in higher classes, one would expect the analysis of the study to be valid even for current situation.

The study concludes:

"*The data confirm that all experts have consensus that the Ministry-approved textbooks are of low quality with respect to the internationally acceptable standards of textbooks.*"

The study found three aspects to be particularly weak: horizontal and vertical alignment, and higher order thinking. Horizontal alignment requires balancing content across textbooks within the same grade. Vertical alignment balances curricular context across grades. In the absence of such alignment, especially horizontal, planning becomes difficult and achievement of curricular objects suffer. The study found only one aspect of the textbooks to be of adequate quality: accuracy of information.

Box 8. Textbook Policy and implementation

In 2007 a new national textbook policy was agreed by all provinces. The policy allows private sector publishers to develop textbooks which are approved by the textbook board and the relevant curriculum authority. This was the reversal of a policy from 1959 when government controlled textbook boards were recommended as capacity of the private sector was considered to be inadequate. These boards functioned as publishers of textbooks that were outsourced for printing. Practically, the boards selected authors for various books who developed these textbooks. Once cleared by the Board these were sent to the Curriculum Wing of the Federal Ministry of Education for issuance of no objection certificate (NOC). Detailed reviews of textbooks were held in both the provincial textbook boards and the federal ministry. The 2007 policy was the result of discussions that started with a provision in the National Education Policy 1998-2010 that had recommended "multiple textbooks" out of which choices could be made. Prior to this the boards develop a single book for each subject at a given grade. After the introduction of the policy, private publishers could compete. The process started in Punjab, followed by Khyber-Pakhtunkhwa, but could not take off in Sindh even though Sindh developed its own textbook policy on similar lines. From 2018 STBB has begun outsourcing textbooks.

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[70] Mahmood, Khalid; "Conformity to Quality Characteristics of Textbooks: The Illusion of Textbook Evaluation in Pakistan" Journal of Research and Reflections in Education December 2011, Vol.5, No.2, pp 170 -190 http://www.ue.edu.pk/jrre

The importance of textbooks in Sindh cannot be overstated. In jurisdictions with poor teacher quality, textbooks and teaching guides gain a lot of importance. They steer the teaching and learning process.

In early grades, textbooks need to be specialized to assist in literacy and numeracy acquisition. According to Sindh Reading Program the existing textbooks of Sindh Textbook Board do not function as good learning material for teachers to transfer literacy skills to students in early grades. Consequently SRP (and also Pakistan Reading Project) set to develop their own learning materials to assist development of early grade reading skills.

The problem lies in the process of textbook development, as well as the personnel employed for the task.

Textbooks prepared are often not relevant to the child's needs. They are not field tested and there is no mechanism of feedback from teachers and students even after they are notified for use in classrooms. Textbook reviewers are normally subject specialists and do not necessarily have a comprehension of the needs of higher order thinking and horizontal and vertical alignment. The better textbooks are more a result of chance where reviewer quality and experience may be relevant by accident. This is not ensured at a systemic level. There are normally one or two teachers in the review committee who are not necessarily the most active members.

4.6.4 Laboratories and Libraries

At the middle and secondary level laboratories and libraries become important learning sources. There is a major deficit as seen in Table 51 below:

Table 50. Laboratories and libraries in Middle and Secondary schools

	Science Lab	Library
Available	1,134	734
Required from Middle onwards	4,251	4,251
Gap	3,117	3,517

Source: SEMIS 2015-16

Almost three times more science laboratories and nearly four times more libraries are required in middle schools. Ideally, there should be libraries in primary schools as well. If this number is added then then deficiency of library rises to almost 41,000.

Availability is not enough. Are libraries and laboratories being used? Anecdotal evidence shows very low use of libraries and laboratory used hampered by lack of material. Replenishment of material often does not take place.

Most critically there are very few computer laboratories available in, even, secondary schools.

4.6.5 Teachers and Teaching Quality

Teaching quality depends on a number of factors that include curriculum, textbooks available, supervision and external assessment. However, the most significant factor is the capacity of the

teacher to teach. In Sindh, generally, teacher quality is considered to be poor. Implementation of SESP 2014-2018, similar to other areas, has failed to make an impact despite some effort. Quality of a teacher can be associated with the following:

i. Teacher Capacity
ii. Teacher recruitment and deployment
iii. Teacher management
iv. Initial teacher education (pre-service)
v. Continuous Professional Development

Teacher Capacity

Student learning outcomes across various assessments and examinations, mentioned earlier, clearly indicate poor learning and point towards weak teaching. While indications exist a more specific teacher competency assessment does not exist to assess the exact weaknesses. There are two studies that can indicate teacher competency. One of these was conducted as part of the ESA[71]. It has already been discussed in Section 4.5. As seen therein teachers do not employ child centred pedagogy. The student is a "passive" member of the classroom. The approach clearly cannot translate into effective learning. The weaknesses in pedagogy are obvious.

The other study conducted by Alif Ailaan (Voice of Teachers; 2014)[72] also points towards weak teacher competency. According to the study major of the teachers lack knowledge of basics of teaching: comprehension of curriculum, taxonomies, and assessments. Only 37% teachers in Sindh had any knowledge about the national curriculum, only 4% were familiar with Bloom's taxonomy (national curriculum is based on Bloom's taxonomy) and only about 18% had ever received any training in assessments.

The above results, specifically, student learning outcomes combine with anecdotal evidence that there are gaps in teacher content knowledge. However, it will be useful if a more specific teacher competency study, with reference to content knowledge, is conducted[73].

Teacher quality develops, primarily, through two processes:

i. Pre-service teacher education
ii. In service professional development

Initial Teacher Education (Pre-service)

Pre-service teacher education has undergone a major transformation in the last few years. New programs like Associate Degree in Education (ADE) and 4-year Bachelor of Education (B.Ed) have replaced the archaic Primary Teacher Certification (PTC) and Certificate of Teaching (CT), as well as, the one-year B.Ed. These changes have, at least anecdotally, improved the quality of teacher training. However, quality still remains below the requisite levels as the pre-service institutions where these degrees are awarded have failed to upgrade their capacity to meet the requirements of these new

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[71] Idara e Taleem o Agahi "Researching Teaching and Learning Practices in the Classroom" September 2018
[72] SAHE and Alif Ailaan. 2014. The voice of teachers: learning from teachers across Pakistan. Islamabad: Alif Ailaan. xii-122 pp.

[73] National Achievement Test for 2016 conducted by National Education Assessment System (NEAS) in 2016 had also tested teachers on core subjects. The national figures are available but province wise break up has not been included in the publicly available report.

courses. In any case these programs are currently being offered in very limited number of institutions. Irrespective, of the final verdict on the quality of the newer programmes, a large number of teachers in the system continue to have the older, short course, certifications.

Box 9. Replacing CT and PTC with ADE and B.Ed

In the early 1970s Primary Teacher Certificate (PTC) and Certificate of Teaching (CT) were introduced as qualifications for primary and middle level teachers respectively. Both certifications were 9-month courses. Basic education requirement for admission to PTC was matriculation and for CT intermediate. Under the Pre-Step Project of USAID/UNESCO the systems were studied and it was concluded that these are poor quality certifications as they do not provide adequate knowledge to the students to become effective teachers. To replace PTC and CT, a 4 years B.Ed. course was suggested and the Higher Education Commission also notified the curriculum for a 4-years B.Ed. As a bridging option Associate Diploma in Education (ADE) was also offered. This was a 2-year course that could be used as a basic qualification. At any stage an ADE graduate could complete two more years to obtain a B.Ed. degree. Provinces were expected to accommodate these changes in their recruitment policies but each followed a different set of rules. However, there are also critics of the new approach who are of the view that a 4-year course exclusively on education is not good use of time. One year B.Ed. should be added to specialized graduate programs in different subjects. This way students will have more options and a stronger grounding in their subjects.

Table 53 shows qualifications of teachers in SELD. The system still has a very large number of PTC and CT teachers. A total of 38% of teachers in SELD had these qualifications as of 2016-17. There is a steady rise in number of B.Ed. teachers[74] while there is an equally gradual decrease in the number of PTC and CT qualified personnel. In 2016-17 there is an increase of 2,435 teachers with ADE qualifications.

Table 51. Professional qualifications of teachers in the public sector in Sindh, 2013-2016

Qualification	2013-14	2014-15	2015-16	2016-17
PTC	53,296	48,689	48,816	46,349
CT	9,929	9,277	9,416	9,779
B.Ed	44,211	45,703	46,531	48,111
M.Ed	24,653	26,952	27,280	26,694
ECE	-	-	-	4,239
ADE	-	-	-	2,435
Others	6,167	9,255	10,085	8,951
Total Trained	**138,256**	**139,876**	**142,128**	**146,558**
Un-trained	**5,091**	**3,955**	**13,740**	**4,229**
No-Info	**2,091**	**339**	**348**	**-**
Total Teachers	**145,438**	**144,170**	**156,216**	**150,787**

Source: SEMIS 2013-17

[74] While data does not clarify details the bulk of teachers with B.Ed. should be with the 1 year, traditional, degree as the four year B.Ed. is being offered in very limited institutions.

Despite these improvements, concerns around the quality of teaching and learning in the public sector persist (SAFED, 2017; Rizvi, 2015). The question remains of increase in quality of teachers with the higher qualifications. There are question marks on the quality of pre-service teacher education institutions – especially, the capacity to implement the new programs. Most significantly, even as the course requirements enhanced faculty qualifications have remained similar to the older dispensation. Most of these teachers are being trained in public sector institutions.

> **Box 9. Teacher training in private institutions**
>
> Data on private school teacher training are not available in order to analyze the training needs and trends. However, in Karachi private institutions vary greatly in terms of profile and type of schools. It ranges from low fee schools to elite schools. Elite schools focus on in-house models for induction and ongoing capacity building of their teachers through formal sessions, ongoing classroom-based support and monitoring. Models and strategies may vary between schools. For example, Aga Khan Education Service, Pakistan – AKESP, the Beacon House school system etc. deliver in-house programs as well as outsource their training programs. On the other hand, there are low profile private schools which do not involve their teachers in any formal professional development activities.

Figure 33 below shows the general academic qualification of teachers in Sindh. A significant number have graduate and post graduate degrees but almost 30,000 teachers with intermediate (12 years of schooling) also appear in the set. Intuitively, teachers with higher qualifications should teach better. However, there is no evidence at this point to make this conclusion.

Figure 31. Academic qualifications of teachers in the public sector in Sindh, 2013-2016
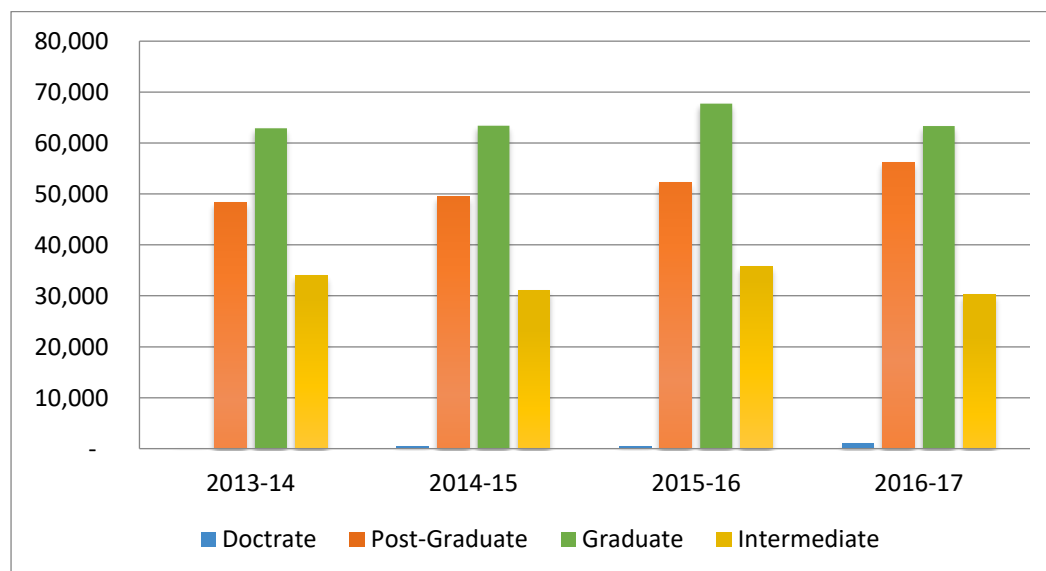
Source: SEMIS 2013-17

Questions are raised on standardization of pre-service teacher education. National Accreditation Council for Teacher Education has now been functional for the last few years to accredit pre-service teacher education institutions. Impact of its work is not clear. More research is required to assess the current quality of pre-service teacher education programmes.

Continuous Professional Development (In-service)

In service teacher education has, traditionally, relied on project funds for discrete timeframes. Often the training imparted depended on the requirements of the project and not the learning needs of the teachers (SAHE 2014, p. 59). These trainings were also plagued by the 'usual suspects' phenomenon wherein the same set of teachers, allegedly, attended most trainings for the financial remuneration. In the absence of documentation, and a database, such practices cannot be controlled.

Impact is more important than mere execution. There is no clarity on results. International research shows that the returns from in-service teacher training are lower than pre-service training, unless it is better linked to students' performance. Irrespective, there is value in professional development, especially if it is aligned with students' learning and a career pathway. The quality depends on the design, continuity and capacity of the trainers.

To overcome the issue of discrete and disconnected trainings Sindh Teacher Education Development Authority developed a "Continuous Professional Development" model in 2017. STEDA's Continuous Professional Development (CPD) model follows a cluster-cum-school based approach, which is a tried and tested approach in Sindh and which has yielded positive results in terms of improved teaching practices at the elementary school level (Rizvi & Nagy, 2015).

The model has only been developed for the elementary level.

The Provincial Institute of Teacher Education (PITE) has the mandate for implementation of CPD. Previously PITE has designed and implemented courses for primary and secondary school teachers of the province.

With introduction of the CPD model, at least the sporadic nature of the programs, role confusion, overlaps in various agencies' functions are expected to go away. As data on trainings accumulate, improvements can emerge. The key concerns will be on implementation, capacity of PITE and the ownership of the divisional Directorates on training. Often trainings received by teachers cannot be implemented in the classroom because of a disconnect between the trainings and expectations of district field officers responsible to supervise teachers.

So far, due to paucity of funds, CPD has not been effectively operationalized and in-service teacher training remains ineffective.

Merit in Teacher Recruitment

In the past, teacher recruitment was mostly on a political basis without regard to merit. In the last few years, Sindh has started recruiting teachers through the National Testing Service (NTS). Feedback from various stakeholders consider these teachers to be qualitatively better. So even as the quality of pre-service teacher training has not risen enough, meritocratic selection has allowed, to an extent, better quality teachers to become part of the system.

A recruitment policy has been in effect in Sindh since 2017. The policy emphasises the importance of recruiting subject-specific teachers on merit at all levels of education, from ECE to secondary school, and outlines eligibility criteria (the required academic and professional qualifications). However, the policy is more focused on governance issues than teacher qualifications, such as procedures for teachers' selection, recruitment and induction, and the roles and responsibilities of the various

departments. There is flexibility in qualifications that reduces the incentive for higher qualifications. There is also a need for ongoing review of recruitment processes.

Teacher Availability and Deployment

The number of teachers has not grown at the level planned and in fact at primary level there has been a decrease. Within the existing set there are deployment challenges that give rise to issues of equity. There is a rural-urban difference in favour of the latter and the targets of requisite number of female teachers has not been met. Additionally, there is a paucity of subject specialists where they are needed the most – at the post primary levels.

Over 2011-12 and 2016-17, there was no substantial increase in the number of teachers at primary, middle and higher secondary levels. The total number of teachers only grew by 3.2% for all levels combined between 2011-12 and 2016-17. However, this variation is heavily influenced by the weight of teachers in primary education. The number of teachers in primary education experienced an important drop, of 8%, in 2016-17 compared to 2011-12. Conversely, the number of teachers at middle, secondary and higher secondary levels showed a gradual increase over 2013-14 and 2016-17. Numbers dropped for all levels of education in 2016-17, however they were still higher than 2013-14 except for the primary level.

Figure 32. Number of teachers by level of education, 2011-12 to 2016-17
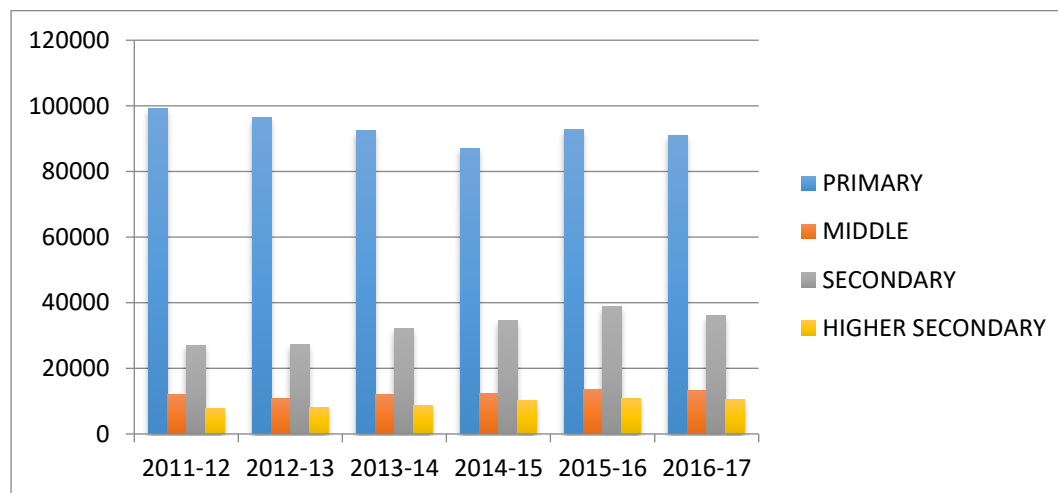
Source: SEMIS 2011-17

The student teacher ratio (STR) in Primary education remained stable at 30:1 in 2016-17, as the number of children enrolled in public primary schools dropped. For the other levels, the STR dropped, more strongly so in higher secondary education. Further district level analysis illustrates that, with the exception of four districts, all districts meet the School Quality and Efficiency Indicator (SQEI) of SESP 2014-2018 of thirty students per teacher. But in Dadu, Ghotki, Tando Allah Yar and Kashmore Kandhkot the number of students exceeds 35 per teacher. However, this does not depict the correct picture as the main problem lies in actual student teacher ratio at the school level.

Further analysis of the rural and urban deployment data shows there is significant difference in the number of teachers in rural and urban areas since 2013-14. Schools in rural areas had more students

per teacher than urban areas. At the middle education level, higher teacher allocations and declining enrolment in rural areas contributed to a fall in the student-teacher ratio in both rural and urban areas. At higher secondary level, both the student-teacher ratio and teacher to school ratio increased between 2014-15 and 2016-17. In the case of rural schools there appears to have been a drive for teacher recruitment in a period of rising enrolment in public schools at this level of education.

Despite the intentions expressed in the strategic sector plan to increase recruitment of female teachers, the trends since 2011-12 (baseline of SESP) do not show any improvement in this respect. Overall, the proportion of female teachers hovered around 31% between 2011-12 and 2016-17. One of the School Quality and Efficiency Indicators of the SESP was the proportion of female teachers in primary education, but this indicator registers a disappointing trend, falling from 28% at baseline to 25.7% in 2016-17. The proportion of female teachers also decreased in middle education, from 41.9% to 38.7% in the same period.

In conclusion, more teachers are required in public schools at all levels of education. However, recruitment should ensure hiring of more competent and skilful teachers so that lowering of the student-teacher ratio can result in effective student-centred instruction.

Deployment still remains a problem as there are imbalances with some schools having more teachers than required while most others have a shortage. This has not yet been rationalized in the province. Such deployment policies impact quality of delivery.

Furthermore, there is a shortage of teachers with specific subject knowledge, particularly in Mathematics, Science and English at middle and secondary levels: only 5 percent of public school teachers have a science qualification at the bachelor's degree level or higher[75].

The shortage appears to be especially acute in girls-only schools. Ideally, there should be three teachers per 35 to 40 children at secondary level. These should include specialists in Science and Mathematics, Social Studies and languages. From a quality perspective this can even be four teachers, as Urdu and English teachers should be separate. Teachers at secondary level were not selected as subject specialists until the last recruitment. This could be one of the factors behind the persistent low levels of learning in Math and Science, as showed earlier. As disaggregated data is not available, it is not possible to make a more detailed assessment of the challenge.

Teacher Management

Teachers are employed by the School Education and Literacy Department and supervised by the Divisional Directorates through their field officers. The Directorates are responsible for teacher performance and discipline.

On day to day work of teachers, practically, the Divisional Directorates and their district arms had found it difficult to manage teachers, especially, check teacher absenteeism. Sindh was perceived to have the highest teacher absenteeism in the country. Two years ago, Sindh School Education and Literacy Department formed the Directorate General of Monitoring and Evaluation. This Directorate undertook the task of checking teacher absenteeism through technology-based devices. As coverage and follow up increased, a number of permanently absent teachers took early retirement. The M&E field work has been a success; it has exposed weaknesses of management at the district level. Practically, DG M&E's work has become a very important tool of teacher management. However, DG M&E cannot supplant the Directorates and work required at the district levels and below. Teacher

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[75] "Sindh Public Expenditure Report"; World Bank 2017

management has more dimensions than absenteeism. They will have to be effectively targeted and implemented by the districts and divisions.

4.6.6 Assessments

Three types of assessments are used in the system: formative, summative and diagnostic. Formative assessments are used in schools by the teachers on an ongoing basis. Summative assessments include the six monthly and annual examinations in schools, the SAT examinations at grade 5 and 8 conducted by IBA-Sukkur, and the examinations conducted by the Boards of Intermediate and Secondary Education. In 2015, Sindh Education Student Learning Outcome Assessment Framework (SESLOAF) was prepared. The policy has responses to a number of problems identified below.

Formative Assessments

These are conducted in schools by the teachers. There is no record or follow up on regularity of these tests. More importantly teachers are not trained in assessments. According to a study by Alif Ailaan, more than 80% teachers in Sindh conceded that they have never received any training in assessments[76]. The general lax approach towards formative assessments notwithstanding the lack of training suppresses the benefit of these assessments.

Summative Assessments

Six monthly and annual examinations in schools are a regular feature and in senior grades they are mostly used for passing or failing students. Practically hardly any student is failed. Here again the quality of examination comes into question as teachers are not trained to develop examinations. The most critical weakness is the failure to develop assessments that test for higher order thinking like application and analyses. In fact, similar to the teaching process they only test for memory.

SAT

Tests prepared by IBA-Sukkur are considered more standardized. As samples of these were not available, no comments can be made on the quality of the examination. Usage of these tests has been unclear in terms of follow up by the Department and its various organizations. Apparently, results have not been used to improve teaching and learning in the classroom.

Boards of Intermediate and Secondary Education

These are high stakes examinations. Career selection and possibilities of continuity of education depend on their results. The first split comes after grade 8 when students are selected for science or general group. Those in the latter have no chance of making it to the more sought-after medical and engineering professions. At intermediate or higher secondary school level the stakes increase even further.

These examinations suffer from two major problems. Firstly, these test memory and reinforce rote learning. As teachers teach to the test, even if some teachers want to change the approach, they are forced into enforcing a rote learning approach. Higher order thinking is missing in the examinations.

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[76] "Voice of Teachers" Alif Ailaan, 2014

Examiners selected for paper setting are subject specialists but with no training of development quality assessments. Most often the examiners have not even seen a curriculum and prepare the papers either through use of textbooks or past papers. More importantly most boards do not have assessment experts. The boards engage more into the logistics of the examinations than quality.

Secondly, there are allegations of widespread cheating. This has seriously reduced the credibility of the examinations.

Box 11. Examinations and equity

Examinations create a major divide between elite and non-elite education in the province. Almost all elite schools opt for international examinations. These are mostly O levels from the United Kingdom (from one of the examination syndicates) or, more recently, international baccalaureate. These examinations or certifications not only require high levels of English language proficiency but also test higher order thinking. Some private schools have also opted for the Aga Khan Board. The latter also has well developed assessment development and management systems that test for higher order thinking.

Diagnostic Assessments: PEACe

Provincial Education Assessment Centre (PEACe) placed in the Directorate of Curriculum Assessment and Research has the mandate for diagnostic assessments. All provincial PEACes were created as part of the National Education Assessment System (NEAS). The first nationwide diagnostic assessment was conducted by NEAS in 2004. The second in 2008 and the last one in 2016. Unfortunately, none of the results were actually used for policy improvements. PEACe in Sindh has remained dormant for quite a few years despite some capacity issues.

4.6.7 Multi-grade Classrooms

Multi-grade classrooms can impact quality of teaching and learning. The direction of the impact depends on acceptance and management of multi-grade classrooms at a policy and implementation level. Successful teaching and learning in multi-grade classrooms require that the following cater to their needs[77]:

a. Curriculum
b. Learning material
c. Teacher preparedness
d. Assessments

None of the above ticks off in case of Sindh (or public sector school system across Pakistan). The multi-grade situations in schools are a by-product of school spaces and teachers available and not a thought-out design. Curriculum and textbooks are developed for monograde teaching[78]. Similarly,

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[77] Little, Angela W. "Learning and teaching in multi-grade settings" UNESCO 2004 (The paper was commissioned by the Education for All Global Monitoring Report as background information to assist in drafting the 2005 report)

[78] " … the information required to effectively work within such a set-up is not sufficiently reflected in the curriculum or the teaching methods nor is it dealt with in content and pedagogy of teacher training courses";

teacher training (with the odd project-based intervention) does not cater to multi-grade situations in the classroom. Specific, and serious, research into learning differences in multi-grade and monograde students is scant. However, it is intuitive to assume that given the conditions, learning in multi-grade classrooms will be much worse. Given than more than 65% classrooms have two or less teachers (Section 2.4.1, Table 23) it is a serious concern for Sindh. More research and better planning of curriculum, textbooks and teacher training to cater to the ground reality of multi-grade teaching should be a very high priority in targeting improved learning.

4.7 Standards and Research

A comprehensive set of standards for quality has always been the main missing link in delivery of quality education in Pakistan. The Federal Government under the Federal Control of Curriculum, Textbooks and Maintenance of Education Standards Act 1976 never developed the requisite standards. National Education Policy 2009 recommended development of standards for all education "inputs, processes and outputs". In 2016 a set of national standards was prepared at the federal level and endorsed by the provinces in the Inter-Provincial Education Ministers' Conference (IPEM).

Sindh Education Sector Plan 2014-2018 mentions standards in a limited way – these refer to school standards and not broader educational standards. However, under the Sindh Curriculum and Standards Act 2014 the responsibility lies with the Directorate of Curriculum Assessment and Research (DCAR). Recently, the Department has notified a committee to review and develop standards of education in Sindh.

The Committee has agreed to use the National Standards document as the starting point for development of provincial standards. Firstly, these would be reviewed to adopt to provincial needs and secondly, more detail will be added. Currently, the standards exist mostly at the level of outputs. For example, it provides standards for textbooks but only at the output level. There is a need to develop standards for inputs and processes also. The latter may include examples like field testing of textbooks.

Education is a living process. Its improvement and survival depend on the ability to learn on an ongoing basis. It is important for education to combine learning from other jurisdictions with learnings from the local context and practices. Almost all the major institutions like PITE, DCAR, STBB and the boards of intermediate and secondary education have a research mandate. None of the organizations either utilizes research optimally or conduct meaningful research that benefits the system. Capacity limitations in number and expertise of staff play a major part. It is a massive vacuum.

A self-learning mechanism does not exist at the system level despite the mandate. A Policy Development and Research Centre has started functioning in the SELD but its capacity and activities remain negligible.

4.8 Conclusion

It is very clear that students in Sindh are failing to learn. Diagnosis beyond this bottom line becomes a bit difficult due to limited research and information as to causes. Even as these patches of knowledge get filled in a few issues emerge very starkly. Curriculum, at least for English language, needs to be reviewed to adjust it to the child's needs. Textbooks should be re-assessed as the current ones are of poor quality. Teaching quality remains very poor and assessment capacity in the system is very low,

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Mansoor, Suwaibah "Multi-grade Teaching: An Inevitable Option" Policy Brief, Annual Status of Education Report 2011

and it does not feed back into the classroom. Part of the problem with reaching more clear conclusions on the various strands in the quality of education has been absence of a comprehensive set of standards and limited research. Both of these are major vacuums that SELD needs to fill if quality of education in the province is to be improved on a sustainable basis.

Chapter 5. Governance and Management

Key Findings:

- *A comprehensive legal framework for delivery of quality education to all children is in place. Effective operationalization is the main challenge.*

- *Political interference has receded in education but continues to be a problem in transfer and postings of teachers at district level*

- *The recently set up Directorate General of Monitoring and Evaluation (DG M&E) has made substantive progress against teacher absenteeism but a more strategic approach to planning including monitoring and evaluation is needed, that looks at the entire value chain of education from curriculum to student learning outcomes.*

- *The education management information system needs to be revamped to adjust to the needs of planning and M&E. The scope of data needs to be revised in view of the expanded needs and a more integrated data system available to multiple users in the organization.*

- *The capacity of the organizations responsible for development of quality products like curriculum, textbooks and curriculum needs serious attention.*

- *Engagement with external stakeholders like the private sector and community remains a very weak area. While an enabling PPP law exists and projects under public private partnership have been initiated the internal capacity of the department to manage PPPs is weak at both the provincial and district levels. Similarly, the capacity of the head teachers and district officials to engage community in schools needs major improvements.*

- *While financial outlays have increased over the years the system needs to review the value it gets out of the money spent as an ongoing indicator of its performance.*

Introduction

The state of education in Sindh calls for a serious review of the functioning of education governance and administration. Poor results in access and participation, quality and equity are all tightly linked to capacity limitations in management and the approach to governance. SELD is the largest department in the province and takes up almost 20% of the provincial budget allocations. There has been a steady increase in financial allocations over the last five years. Teachers in the public sector are paid a multiple of their peers in private schools. Yet, the results, as already seen, continue to be disappointing in both enrolment and learning. There have only been marginal increases in the former and none in the latter. A continuously growing private sector testifies to the loss of public confidence in government's education service delivery.

There have been some serious improvements like increased political will to improve education. Teacher recruitment has been de-politicized. Merit in recruitment is strictly followed. Similarly, new curricula have been developed. Some restructuring has also been undertaken. But the results have still not been reached. Many of the problems of capacity live on from the past and form the bulk of the challenge. Secondly, politicization has been reduced but not eliminated. Public private partnerships could in principle play a constructive role, but there is not enough evidence yet as to the effectiveness of the model and how it could work in a larger scale. In any event, some fundamental changes might be necessary in the structure, processes and approach of the education sector institutions in Sindh, to provide an enabling environment for positive development of the sector and its administration.

5.1   Legal Framework and Structures of School Education in Sindh

5.1.1 The Legal Framework

Primarily, three legal instruments define normative framework of school education in Sindh province:

i.   Article 25-A of the Constitution of the Islamic Republic of Pakistan
ii.   The Sindh Right of Children to Free and Compulsory Education Act, 2013, and
iii. Sindh Curriculum and Standards Act 2013.

Article 25-A of the Constitution covers the fundamental right to free and compulsory education for children aged 5 to 16 years. The Sindh Right of Children to Free and Compulsory Education Act 2013 has been enacted in pursuance of the requirement of Article 25A. The Act defines free education to include textbooks, stationary, schoolbags and uniform. It also requires private schools to register and include 10 percent of children who are not charged any fee. The Act, and the Rules of Business framed under the act, define implementation arrangements, including an Education Advisory Council and a Steering Committee with a dedicated Sindh Right to Education Secretariat. The role of the Education Advisory Council is prescribed by the law as follows:

> *"(1) Government shall constitute an Education Advisory Council consisting of such number of members, not exceeding nine including chairperson, to be appointed from amongst persons having knowledge and practical experience in the field of the education, child rights and child development to advise the Government on implementation of the provisions of this Act in an effective manner.*
>
> *(2) The Education Advisory Council shall also ensure that every child required to attend a school under this Act attends a school and for this purpose it shall take all steps as may be considered necessary or as may be specified by Government; "*

The Rules of Business framed under the Act also call for establishment of a dedicated Sindh Right to Education Secretariat along with a Steering Committee with representation from all the relevant wings of SELD. The Rules identified following responsibilities for the secretariat and also state quarterly progress reporting to steering committee on these responsibilities:

> *"a) Mapping of Out-of School children in all districts of Sindh. This could be done in cooperation with districts administration. This data needs to be based preferably on UC level to serve as cornerstone for all future planning. This is very critical task assigned under the Act. And ELD will provide for necessary human and financial resources to undertake this exercise.*
>
> *b) Providing an overall situation analysis of availability of present infrastructure using available data from school side, SEF and other non-government organizations.*

c) Develop a system of continuous monitoring through comprehensive quarterly appraisal of each district against a well-defined performance management framework catering all aspects of this Act.

d) Tracking students in schools to pre-empt dropout.

e) Ensuring that regional directorates fully comply with requirements entrusted to government under this Act."

Unfortunately, to date the Education Advisory Council has not been set up, nor the Steering Committee and the RTE Secretariat as envisaged in the Rules of Business.

Sindh Curriculum and Standards Act 2014 mandates the provincial government to develop standards and research based framework for education in the province. It calls for development of education standards and makes the Directorate of Curriculum Assessment and Research responsible for their implementation. It also elaborates a process that clarifies roles and responsibilities of various organizations in development of curriculum.

In addition to the above, a number of laws, acts and ordinances enable operationalization of various organizations and their functions. These include:

i.   Sindh Textbook Board Ordinance 1970
ii.   Laws for various boards of intermediate and secondary educations
iii. Sindh Teacher Education Development Authority Act 2012
iv.   Sindh Private Educational Institutions (Regulation and Control) Ordinance 2001

In addition to these direct laws, a number of other regulations influence work in the Sindh education sector. An important law is the Public Private Act 2010 that provides the path for PPPs in all sectors, including, education. These will be discussed under the relevant heads below. Sindh Government also approved Sindh Internal Audit charter. The proposed internal audit mechanism will be implemented in all departments through a Provincial Internal Audit Committee and in each department, Departmental Internal Audit Committee and Internal Audit Wing. Education Department is one of the pilot sites for the proposed internal audit mechanism. However, the mechanism is still being shaped and is not fully functional.

5.1.2 Structures of School Education

SELD covers the various aspects of the education value chain quite comprehensively through various organizations. The organizations and their functions are summarized in Table 55 below:

Table 52. Functions and structures in School Education

Function	Organization	Summary of Mandate
Policy, Coordination, Overall management	Secretariat of the School Education and Literacy Department	Overall policy direction, supervision, coordination
Standards	Directorate of Curriculum Assessment and Research (DCAR)	Responsible for standards, curriculum and assessments as per Sindh Curriculum and Standards Act 2014
Curriculum	Directorate of Curriculum Assessment and Research (DCAR)	Responsible for standards, curriculum and assessments as per Sindh Curriculum and Standards Act 2014

Teacher quality	Sindh Teacher Education Development Authority	Responsible for in-service and pre-service teacher education quality
Pre-Service Teacher Training	Directorate of Teacher Education (It is a part of DCAR)	Pre-service teacher education
In Service Teacher Education	Provincial Institute of Teacher Education (PITE)	Professional development of teachers and managers
Textbooks and Learning Materials	Sindh Textbook Board	Textbooks and learning materials development as per curriculum
Examinations and Assessments	Boards of Intermediate and Secondary Education	High stakes summative examinations. The boards are not part of SELD and fall in the domain of Secretary Boards and Universities
	Directorate of Curriculum Assessment and Research (DCAR)	Provincial Education Assessment Centre (PEACe) is part of DCAR. It has the mandate for diagnostic assessment.
Teacher management, school maintenance, monitoring and teaching and learning in schools	Divisional Directorates	Responsible for schools, teachers, students and the teaching and learning in the classrooms through head teachers and teachers
Monitoring and Evaluation	Directorate General of Monitoring and Evaluation	Monitoring of schools for teacher and student absenteeism and other matters
Non-formal education and adult literacy	Directorate of Literacy and NFE	Policy, planning and implementation for Non-formal education
Private sector regulation	Directorate General of Private Schools	Registration of private schools
Public Private Partnerships	Public Private Partnership Node	Coordinate PPP efforts of SELD with PPP Unit and Policy Board and assist in development of proposals
Planning and development	Directorate of Planning Development and Research	Planning and research
Data collection, hosting and analysis	Reform Support Unit	Initially responsible for reform coordination. Now implements a number of areas including SMCs. Hosts SEMIS and is custodian of Sindh Education Sector Plan

The problem has been that these structures have not combined to produce optimal results for education in the province. There have been a number of deficits discussed in the sections to follow.

5.2 Performance of SESP 2014-2018 Objectives related to Governance and Management

The table below summarizes status and challenges for governance and management related SESP 2014-2018 objectives and strategies. Progress has been captured through the review of government

documents and interviews with key informants. It also highlights challenges faced in effective implementation gathered through focus group discussions and consultations. As it can be observed, some improvements have been affected in the period of implementation of the SESP: various policies have been developed, and data management and M&E system have improved, among other components. However, there are major remaining challenges, which will be analysed in different sections of this chapter.

Table 53: Status of SESP 2014-2018 objectives related to Governance and Management

Objectives/Strategies	Status & Challenges
Objective 1: Develop an Education policy based on holistic approach	
- Constitute Task force & sub committees / technical working groups on - Language of Instruction policy - Policy on Streamlining of Madrassahs - Policy on Devolution of budgets to the district and school level - Develop policies on subsectors - Review of current management policies and practices - Integrate all other policies in one policy document - Develop comprehensive education policy - Develop governance framework with a whole sector approach - Deliver capacity building for district sector planning	- Following policies have been developed, approved and notified; - ECCE Policy - School Consolidation Policy - School Clustering Policy - HR (recruitment) Policy - M&E Policy - The integration of all policies into one holistic education sector policy document is pending - Capacity building of district sector planning is pending. - The successful implementation of policies is not eminent at the district or school level
Objective 2: Develop / establish an independent data collection and monitoring system	
- Review of other similar systems - Develop entire system structure - Recruit staff and operationalize the system - Collect data on a monthly/ quarterly basis online and its integration with ASC data - Identify different data sources i.e. PSLM, SEMIS, Population, ASER and reconcile these through a research study	- SEMIS data is broader, comprehensive and collected once in a year (Annual School Census), although data is out of date by one year when planning takes place. - The M&E Unit has been established with elaborate district level setup and resources, collecting real time data from schools and biometric attendance of teachers. This resulted in improvements and absentee teachers began attending school regularly. However, M&E data is not being used for strategic planning or policy making. - Datasets only cover government schools, leaving out the private sector. SEF data is also not integrated with SEMIS or M&E. There is a dissonance between the two data sets. - The SEMIS can now obtain live and credible field data from M&E. Efforts are being made to align and integrate SEMIS, M&E and the HRMIS data. - ILMI is another initiative that functions as an interactive online platform to collect public complaints. This a good

	measure strategy for accountability. However, follow up on the grievances received and ensuring that the issues are responded to, is a challenge.
Objective 3: Effectively managed and accountable HR	
• Create a special cadre for educational managers	• A Management Cadre notification was issued. The implementation requires transfer and repositioning of personnel to their respective cadres, which faced resistance from personnel and political interference. • Third-party conducted merit-based induction of new head teachers (HTs). For primary level, over 1000 BPS-17 personnel have been appointed as HTs. • Primary schools with new HTs are designated as cost centres for school-based management. However, as the HTs are on contract, DDO powers could not be delegated to them due to government rules. In such cases, DEOs are also having DDO charge. • The new HTs are required to be in that school at least for three years, however frequent transfers/ postings along with use of political influence are still major challenges.
• Develop and operationalize HRMIS • Improve office equipment, facilities and provision	• HRMIS Directorate is established, as well as the software, and all government school education department employees (150,000 teachers) are included in the database. • Teacher transfer and posting decisions can now be made on the basis of Student Teacher Ratio and need for teachers. A District transfer request is subject to approval. • About 15-20 personnel at the data centre must process information for 150,000 teachers, hence turnaround time is long
• Create a system for performance appraisal	• There is no new appraisal system. The traditional ACR system remains.
• Deliver capacity building programmes for education managers, particularly on the latest challenges in educational management	• A CPD framework has been approved • The only capacity building programme reported was one for the newly inducted HTs for primary schools. The head teachers' training was commissioned to SZABIST • The quality of the training programme and its impact needs to be assessed.
Objective 4: Institutionalize research and development	
• Develop a dedicated R&D unit at the School Education Department • Conduct research that results in new ideas for better management	• No information available of a dedicated unit
Objective 5: Increase effectiveness of School Management Committees (SMCs)	
• Review SMC act and make necessary changes • Revise programme and authorizations for functioning of SMCs	• SMC rules have been developed and approved, the SOPs have been made, and the appointment of the EC is done through election. • The SMC fund transfer has been streamlined, and there is a transparent system because of joint accounts.

• Revise the funding formula for SMC • Deliver capacity building for SMCs	However, often schools do not use SMC funds for fear of being audited. • SMC members often lack commitment, management skills and guidance on what their responsibilities are. Training is required. • There is no empirical evidence on whether the SMCs follow the male-female ratio rule.
Objective 6: Develop and implement standards for educational inputs, processes and outcomes	
• Develop minimum standards on school infrastructure • Develop performance standards and benchmarks for recruitment and performance of teachers and education managers	• 4,560 schools have been identified using the criteria of schools with 100+ students enrolled, more than 2 rooms and more than 2 teachers. These schools constitute more than 50% of the total enrolment in Sindh. Minimum service / infrastructure standards have been made for this category of schools. • Performance indicators and job responsibilities of various positions have been developed.

5.3 Assessing Governance and Management

The provisions of Sindh Children's Right to Free and Compulsory Education Act 2013 should drive change in governance and assessment structures, and in education reform overall. It cannot be business as usual. The structures and capacities, which have only marginally changed in the past, cannot produce the needed results.

Sindh faces a massive education challenge. A large number of children are out of school as nearly 70% abandon school by grade 6. Those who stay in the system do not learn to the requisite levels. As seen in the access chapter, high dropout rates result in a very small proportion of children remaining in school beyond primary level. Given the requirements of the Sindh Right of Children to Free and Compulsory Education Act 2013, out of school children need to be brought into schools. Eventually, sustainability of the efforts will depend on quality of education. Is the present governance and management structure adequate or prepared to undertake the task?

The following areas need to be examined:

i. The general environment in which the education system operates
ii. The organizational structures
iii. Critical management areas
   a. Strategic planning (including M&E)
   b. Information systems
   c. Management for quality education
   d. Financial management
iv. Engagement with stakeholders, including the private sector and the community

These have been discussed below identifying some of the key challenges.

5.3.1 General Education Environment

As an open system, education always gets impacted by the environment in which it operates. Over the years, the education sector has been the focus of vested interests in politics where many of its activities, including teacher recruitment, transfers and postings were influenced for the wrong reasons. A major capacity gap began to emerge because of the politicization. The other, more baleful, impact was on discipline. At one point, Sindh was perceived to have the highest rate of teacher absenteeism and the greatest number of dysfunctional schools in the country.

In recent years there has been a shift. Education has been raised in political priorities and the government, through the Directorate General of Monitoring and Evaluation, has begun to control teacher absenteeism. The work of DG M&E forced a number of permanent absentee teachers to seek early retirement.

Merit is strictly observed in teacher recruitment. National Testing Service (NTS) is used for this purpose. However, the historic legacy of poor capacity teachers, low self-esteem of the system and public perceptions continue to be a burden. Political interference in postings and transfers of teachers continues. Any reform effort will have to deal with these burdens and manage them.

5.3.2 The Organizational Structures

The current structure of the School Education and Literacy Department is based on a conceptual framework of provincial government characterized by a secretariat, managed by generalists with management capability, and supported by technical directorates. The structure in its original form expects the bulk of technical advice and decisions to come from the technical directorates. Figure 35 shows the conceptual roles and responsibilities of the various structures.

Figure 33: Organizational roles and responsibilities in the Education Sector
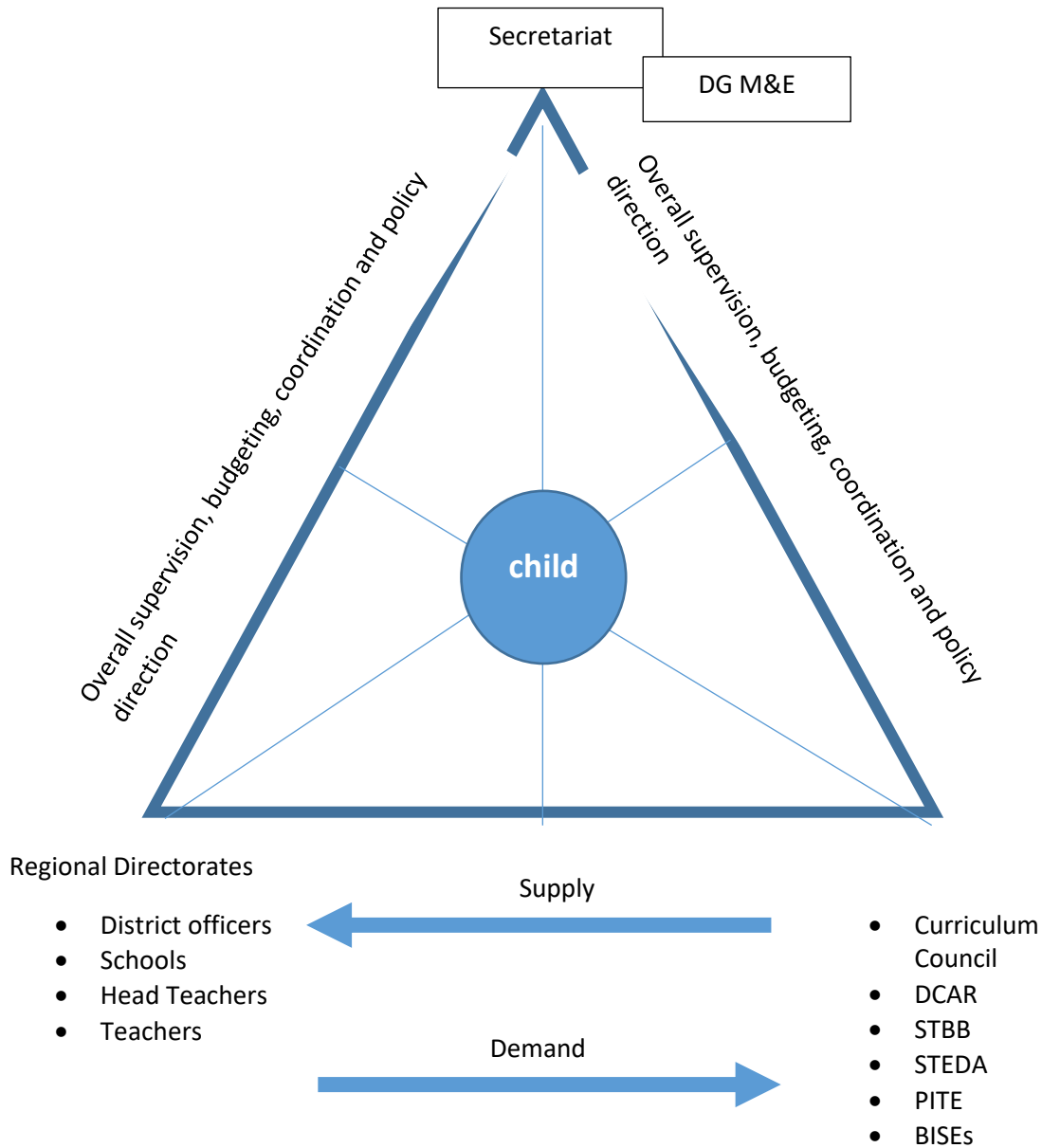
The triangle shows three sets of organizations: the Secretariat headed by the Secretary, the Organizations responsible for supply of quality products, such as curriculum, textbooks, teacher training, infrastructure, etc., and the Regional Directorates. The position of Secretary Education is occupied by a senior civil servant, normally, from the elite Pakistan Administrative Service. As head of the Department and the Secretariat, the Secretary is responsible for providing policy direction, ensuring coordination across the various attached departments and engagement with the political leadership, and with Finance and Planning and Development departments to receive political and financial support for endeavours of SELD. The Secretary depends on the advice of the Regional Directors and also other heads of attached wings and directorates.

The quality organizations are responsible for support of the Directorates through provision of quality services to all. These include curriculum and learning material relevant to the needs of the child, training of teachers for better performance and assessments to gauge the system.

Prior to the creation of the Divisional Directorates, there was a single Director for the entire province. The Regional Directors are, essentially, chief educationists of their respective jurisdictions. They are responsible for teachers, schools, students and learning in their jurisdiction – the entire education process in a division. The Divisional Directors are responsible for effective functioning of schools through the field officers under their supervision, the head teachers (wherever available) and teachers. Effective functioning of schools includes availability of facilities, presence of teachers, ongoing enrolment of students and, most importantly, classroom teaching and learning.

While some parts of the structure function in this manner, a few distortions have appeared in the system.

The Role of Secretary Education

Secretary of Education is, normally, selected from the elite civil services cadres of Pakistan Administrative Service (PAS). This a federal cadre but services of these civil servants can be placed at the disposal of any of the provincial governments. This is a generalist, management, cadre and most secretaries of provincial administrative departments are from Pakistan Administrative Service. The Secretary is required to oversee policy, coordination and high-level management of the department. The Directorates of Education and other technical arms are responsible for the technical management of planning, monitoring and the teaching-learning approaches and outcomes.

Over the last few years the role of Secretary Education has expanded into technical areas. This is partly due to erosion of capacity in the Directorate(s). It is difficult to determine an exhaustive set of reasons but a few important ones are:

- **Politicization of District Level Management:** This is a legacy of the past where it became increasingly difficult for the district level officers, under the divisional directors, to manage their jurisdictions. The Secretaries had to intervene to support the Directorates. In fact, inability of the district levels to control teacher absenteeism led to the creation of the Directorate General of Monitoring and Evaluation (DG M&E) which through use of technology and officials independent of the district hierarchy, has been more effective in not only checking the problem but also highlighting a critical issue like student absenteeism.
- **Enhanced Scale**: As the number of schools, students and teachers expanded, the district officers found it increasingly difficult to manage core education matters. A lot of time of these officers was spent on issues of transfers and postings.
- **Donor Interventions:** A lot of technical inputs and support to education has come from development partners. The processes for traction and management of their projects were centralized. Donors find it easier to engage with the Secretary and senior officers at the provincial level due to better capacity and more power at this level. A lot of reforms emerge without adequate involvement of divisional and district officers which has over the years made their positions less relevant to reform. The Reform Support Unit (RSU) that had originally been set up to manage the Sindh Education Sector Reform Program (SERP) has now assumed a permanence due to more capacity. The Unit has moved from a mandate of supporting reform to that of implementation.

According to Alif Ailaan's study on "Voice of Teachers" at any given point of time only 5% of teachers make requests for transfers and postings and less than 5% are involved in litigation with the department. These small percentages translate into big numbers. Sindh has about 145,000 teachers. Five percent comes to 7,100. If divided equally across the thirty districts each one will have about 236 teachers to deal with. Similar is the case of litigation. A case of a minority choking the entire system. Not only do these numbers take away a lot of time of the district officers but also become entry points for political intervention. The latter includes the role of teachers' associations.

Enhanced role of the Secretary into technical areas is practical at present, but over time this will have to be reversed as centralization of capacity and decisions can only have a limited impact. Without adequate capacity and powers at the regional levels and below, long term effectiveness of reforms will erode.

Organizations responsible for supply of quality products

Teachers and head teachers need to have a say on quality products, directly or indirectly, being used in the classroom. District officers and Divisional Directors should be the conduits for such feedback. Practically, no structured mechanism exists for feedback on quality products like curriculum, textbooks, assessments and even trainings from the classroom. Teacher training needs should initially be identified by the Directorates and support requested from organizations like the Provincial Institute of Teacher Education (PITE). Practically, all teacher training is supply driven. Divisional Directorates do not prioritize trainings. In fact, there is an implicit perception within these directorates that quality lies in the domain of 'other' organizations. Training is not done on the basis of the identification of needs, nor the effectiveness of the training conducted is evaluated.

Capacity of organizations that supply quality products needs to be assessed. Does DCAR have the requisite human resource for the task of developing curricula for grades 1 to 12? Does it have enough curriculum experts? Does the textbook have qualified experts in textbooks? Do examinations boards have enough assessment experts?

Also, the processes for curriculum review, textbook development and assessments need to be assayed.

Structures at sub-provincial level
District Management

Without effective capacity at the district level to manage education, school effectiveness is not possible. Given the scale of education service delivery, centralized models will not work. The current capacity in terms of human resources may not be adequate.

The structure of the education sector at district level can be seen in Figure 36 below. It is headed by a District Education Officer supported by five District Officers. One each for elementary, secondary and higher secondary, academic and training, Sindh education management information system and sports. The first three DOs are supported by Deputy DOs, separately, for males and females. Assistant Education Officers at the tehsil level support Deputy DOs.

Figure 34: Organisational structure at district level
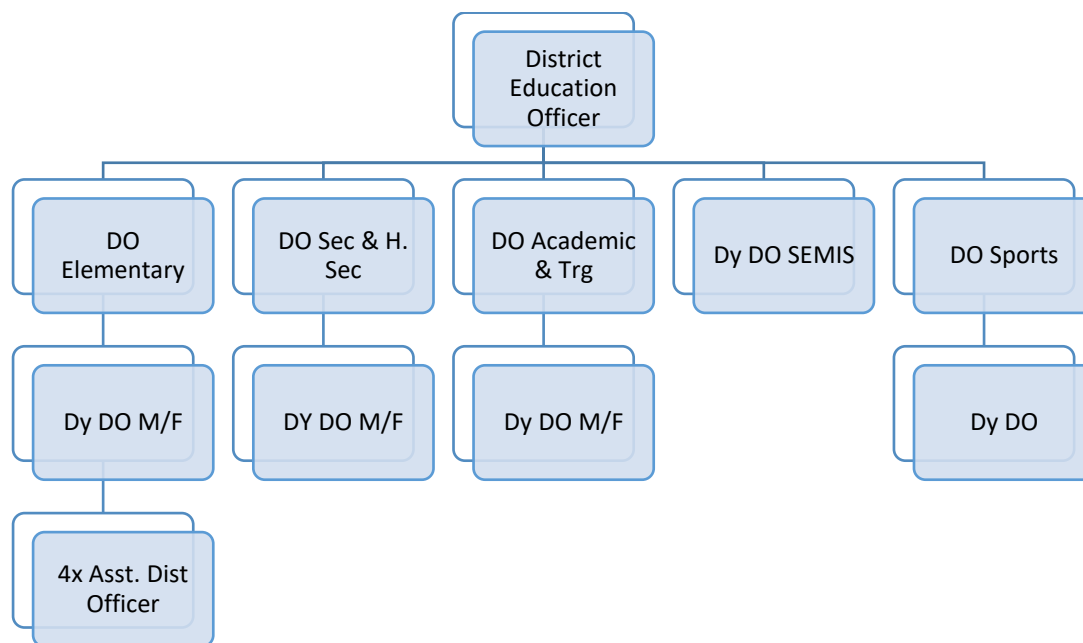
As discussed earlier, over the last few years there has been an erosion of the effectiveness of the district levels. The result has been dysfunctional schools, teacher absenteeism and poor learning outcomes. Formation of DG M&E and expansion of private schools are two major indicators of the weaknesses of the district education management.

The lack of effectiveness stems from a number of reasons. Firstly, the span of coverage is too big for the number of personnel and resources available to the district officers. Secondly, there is no structured training process to build capacity of these officers. They do not, in routine, receive training in education strategic planning and management.

Political interference in their work and routine administrative matters of the high number of teachers leave very little time and space for district officers to focus on school improvements. There is a serious need to rethink the entire capacity and structure of the district level. It is critical, as given the size of the education department, it cannot sustainably and successfully be managed without capacity, and consequent effectiveness of, decentralized offices.

District officers will need to not only undertake administrative matters but also be responsible for school effectiveness. In the present state this is not possible. A few exceptional district education officers manage things marginally better, but even these officers are handicapped by lack of resources and environmental factors that impinge on their work.

In the focus group discussions, district and tehsil education officers were of the view that their routine work has huge variation from their official job descriptions. They also mentioned centralization of decision making, which makes it difficult for education officers at sub-provincial level to take decisions within their span of control.

An important issue that, at least indirectly, emerged from the FGDs was the clear difference in management needs of urban and rural districts. For example, in Karachi 67% of enrolment is in private schools. Also, the number of children enrolled in schools is very high. According to some teachers, students have to sometimes stand outside the classroom. These differences in management needs of urban and rural areas need to be considered.

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School management

Head teachers are critical to school effectiveness. As most primary schools have either one or two teachers, a head teacher does not, effectively, exist. Only recently about 1080 primary schools have had head teachers appointed as part of an education management reform. These are on contract and do not have the powers of a drawing and disbursing officer. Stakeholders were of the view that these head teachers are of better quality and more need to be recruited as the remaining nearly 37,000 schools function without a head teacher. Tehsil/Taluka education officers perform the equivalent function. Given the number of schools assigned to TEOs it is not possible to replicate the requirements of a head teacher. There is some resentment among the senior primary teachers on the fresh recruits, whom they consider to be junior, to be in management positions over them.

In Elementary schools, this is a more recent phenomenon. A senior person becomes head teacher. These head teachers receive no specialized training. Therefore, most head teachers have little idea of the role. In the absence of effective school level leadership there is very little chance of improvement either in academic learning of children or other matters like community engagement.

Schools are, essentially, focused on completion of syllabus and not learning. Most head teachers cannot provide the mentoring support required of the job. This weakens teacher motivation and capacity to deliver. In the classrooms the primary focus is on coverage of syllabus and not learning. Head teachers, similar to DEOs and TEOs, complained of over-centralization.

5.3.3 Critical Management Areas

Strategic Planning

Strategic planning encompasses the formulation of policies, procedures, programmes and standards that are necessary to pursue a common education vision, including the mobilization and allocation of resources to this end.

The Sindh Education Sector Plan 2014-2018 was prepared to create a holistic inter-connected plan for the sector. Prior to SESP, education planning was a piecemeal effort. Projects, either supported by donors or funded by the government, were identified in isolation of their connectivity with the sector as a whole. This created imbalances in priorities and created a situation of disconnect in the development efforts.

While the SESP was utilized as a source for development planning, in many instances the prioritization process and integrated nature of planning envisaged in the Plan was not followed. Resultantly, several components of the plan have not been implemented.

The traditional PC-1 approach is followed by all attached departments. Identification of development needs is undertaken by each organization and PC-1s are prepared and sent to the Planning Directorate and from there the approved documents are sent to the Planning and Development Department. The latter has its own set of priorities and limitations that decide, among other factors, the final approval. Sindh Education Sector Plan is not utilized as the priority document in a structured manner. The prioritization from the Sector Plan is not the main consideration. Instead of being strategic and aimed at reaching a common goal for the education sector, planning is incremental and often ad-hoc.

Dissemination and comprehension of SESP has not permeated to all departments or to the districts. The systemic, strategic planning process envisaged in the sector plan has not gained the required traction.

In fact, there is no unit within SELD that has the mandate of strategic planning, which would encompass not only the usual planning of infrastructure, teachers and learning materials, but also management of information systems and M&E. These different functions lie in disparate units, which makes it ever more difficult to have a coherent approach to educational planning.

Monitoring and Evaluation is a key function within a strategic planning approach, and is critical to ensuring quality and improvements for any system. For schools, the mandate has been with the district officers, but due to erosion of capacity and other limitations its effectiveness has reduced. The situation of teacher absenteeism had become a serious concern and the focus of monitoring efforts.

In 2016 the Directorate General of Monitoring and Evaluation was established. As an organization reporting directly to the Secretary, and not involved in day-to-day management of education issues, DG M&E enjoys the independence required for the function.

The Directorate has independent field monitors who take information on digital devices and check teacher presence using biometric data. DG M&E also reports on student absenteeism and availability of textbooks in schools. Its work on teacher absenteeism has forced some of the perpetually absent teachers to request for early retirement. Stakeholders in FGDs agreed that the Directorate General's work has increased teacher attendance and reduced fake schools and teachers in the system. However, they were critical of the centralized approach which has made it difficult to transfer and post teachers within the local requirements. Teachers cannot be transferred without re-registering with DG M&E for the new place of appointment. They also emphasised that teacher presence does not guarantee quality of teaching and learning. There were also allegations of some corruption in the system but most agreed on the impact on reducing teacher absenteeism.

> **Box 13. Better monitoring systems to support implementation of education reforms**
>
> The Sindh School Monitoring System (SSMS) developed with support of a GPE Implementation Grant (2015-2017) has been an important tool for management and accountability. The system covers all districts and has improved the capacity of SELD to generate information that supports the implementation of education reforms. It is structured with 29 District Monitoring Units, 29 Chief Monitoring Officers and 349 Field monitors. Monthly reports issued by DG M&E are used by district and regional officers to make critical management decisions, including on absentee teachers, rationalization of schools, civil works, etc. The monitoring data collection and reports have led to a rationalization of teacher management and may also have led to an improvement in teacher attendance rates.

Importance of DG M&E's work cannot be overestimated, but a systemic and robust M&E for SELD requires the function to have a much wider scope than monitoring inputs. It should rather take on the monitoring and assessment of outputs and outcomes. Also, M&E by a single organization can only resolve problems up to a point.

The current work of DG M&E is limited to small, albeit, important indicators. The system needs to conduct M&E across the entire value chain from curriculum to classrooms, including learning assessments. This would require a more robust systemic M&E as well as internal M&E mechanisms, and the use of all the information generated for planning and effective decision-making. Presently,

none of the organizations have an effective internal monitoring mechanism. There is no quality assurance and control mechanism operational.

M&E systems require benchmarks or standards and indicators to determine progress against these. As required in the Curriculum and Standards Act 2014, SELD has denoted a standards committee to review education standards in the province. Even as standards are finalized, there is a need to expand the set of indicators that can be used by the system to gauge progress. As a follow-up there should be an institutional mechanism to use the information for system improvement, including assessment data. Currently, no permanent structure exists – except for follow up on the reports of DG M&E.

RSU as custodian of SEMIS has an important role in monitoring. An EMIS that is connected to multiple remote users with information beyond the scope of the current datasets will be important to monitor. Indicators generated by information included in the database will form the control mechanism to monitor progress.

A major gap has been that of evaluation. While monitoring has been undertaken in some form or the other, no systemic evaluations have ever been undertaken other than systemic assessments for sector plan development. Failure to revive the research function goes hand in hand with inability to evaluate – at all. As a result, policies and programmes are hardly evidence-based.

Information Systems

Information is critical to strategic planning and decision-making. The main source of data for the Department is the Sindh Education Management Information System (SEMIS). It initially started as a project in 1991, and by 1993 it was taken over by the Government of Sindh as a regular feature. SEMIS depends on an annual school census physically conducted. While traditionally data was collected by the department's own staff in the districts in the last two years the task has been outsourced to a private firm. Data collected is entered into the education management information system. While Sindh EMIS serves as a very valuable resource of current and historical data it needs improvement in a number of areas to make it a more effective tool for planning. Currently it suffers from important gaps.

Limited Scope of Data

SEMIS collects data of public schools only. With expansion of private schools, especially in urban areas, over the last two decades, this information is not adequate for effective planning. The deficiency has created a reliance on other sources like the Pakistan Social and Living Measurement Survey (PSLM) for vital indicators like net and gross enrolment rates. While the latter has reliability, it is a sample-based survey, suffers time lags, and cannot surpass a school census in the information required for adequate school planning.

Irrespective, the size of the private sector makes the integration of data for this sector extremely relevant to the School Education and Literacy Department. Firstly, it is necessary to determine the exact number of children in school (and consequently out of school). Secondly, to ensure minimum standards of education. Finally, to plan for using the private sector as a resource for implementation of the School Education and Literacy Department's mandate. Collection of data from the private sector has implications for resources but even as these resources become available, cooperation of the sector will need to be sought.

SEMIS does not collect data on quality. These would include results of assessments and teacher trainings. Data on assessments should be collected from sources like boards of intermediate and secondary education and SATs. There can be additional indicators for school level like regularity of formative assessments.

Additional areas like information on budgets and expenditures and human resource (beyond teachers) need to be considered for inclusion.

Standalone Database

An essential feature of an EMIS is access to multiple remote users who can, potentially, retrieve and input data. Retrieval of data includes the ability to generate analytical reports. Sindh EMIS practically functions as a standalone database. Important users within SELD do not have active access to its data. Divisional Directors and even directors of organizations like PITE and DCAR do not have specific access to the information. Measured against the parameters mentioned SEMIS simply functions as a standalone database.

No Integration of Databases and Time Lag

Data generated in different areas have not been integrated into a single database. These include data from DG M&E, Directorate of Private Schools, Girls' stipends and others.

Data is still collected through a paper-based questionnaire and it takes almost a year before the collected data becomes available for use. Such time lags do not help planning.

Management for Quality Education

Raising the quality of education continues to be a big challenge. As seen in the chapter on quality, the results have been very poor. From an organizational perspective these have arisen from two cross cutting issues:

i. The approach to quality
ii. Capacity constraints related to human resources

Education quality has been a low priority historically. Only recently have some major institutional changes been targeted. Most critically, the passing of Sindh Curriculum and Standards Act 2014 has been a significant step forward. Some parts of the law have already been implemented. Creation of Curriculum Council and Curriculum Wing and re-designation of the Bureau of Curriculum and Extension Wing as Directorate of Curriculum Assessment and Research have been important shifts. Recently, in pursuit of the requirement of the law (also a recommendation of SESP 2014-2018) a committee to develop standards of education has been set up.

However, quality needs a more holistic approach and a shift in the fundamentals. One of the strategies sought by SELD with the aim of improving quality has been the establishment of Public Private Partnerships. These could eventually play an important role in improvements of education quality and access but they cannot supplant the need for major reforms in public education management of quality. Critical functions like research have remained dormant. M&E approach used by the Director General of M&E has not yet included quality indicators, as already mentioned. Similarly, Sindh Education Management Information System primarily produces indicators on access and participation despite being operational for more than two decades.

Results of examinations like SAT and PEACE, though held quite frequently have not been utilized for systemic review of the entire organizational edifice and approach to quality of education. Even data of BISEs has not been utilized in data diagnostics and improvements.

As earlier mentioned there has been a reversal of the trend but the approach has, at best, been partial. Unless student learning outcomes become the primary focus of education monitoring and management at all levels, quality will not receive the priority, desperately, needed.

The teaching learning process is technically complex. Ongoing research brings in new and better approaches to education. Products like curriculum, textbooks, assessments and teacher training require specialized knowledge and continuous professional development. There is a shortage of qualified human resource in all quality-related organizations of the education sector in Sindh. While small islands of excellence exist in all, these do not fulfil the requirements of production of quality products. The province (and Pakistan as a whole) requires a critical mass of human resources that specializes in these important areas of education service delivery. Even as there are efforts to improve quality of teachers the need for other professionals remains acute.

Not only is there a shortage of quality human resources in these organizations, there have been no structured programmes for professional development. Most professional development in education has focused on teachers. Combined with absence of research, the lack of professional development mean that the human resources remain behind progress on education in the rest of the world. In this vacuum, development partners have become the main conduit for bringing in new concepts into the sector.

Financial Management

Analysis of budgets and finances in Pakistan typically follow an expenditure and cost-based approach. Sindh has seen a real increase in budget allocations and expenditures in the last five years. However, the increase in expenditure has been lower than the budget allocations. Irrespective, the increase has to be seen with the following lens:

i. Have the results in education been commensurate with the increase?
ii. Has the absorptive capacity of the SELD improved?
iii. Are there more cost-effective approaches?

As will be shown in more detail in the next chapter, the education budget in Sindh has shown a steady increase since 2011, reaching Rs 191 billion in 2017-18. The last figure reflects a 110% growth in the volume of the total education budget in real terms over 2011. Despite this important trend, it has to be noted that most of this increase took place between 2011 and 2012. If we consider the evolution since 2012, the growth of the education budget in real terms as of 2017 has been just 4.8%.

The education current budget represented 15% of the total current budget in 2011, and nearly doubled the next fiscal year. The share hovered around 26%-28% until 2015, when it began to fall. In 2017, the share of the education current budget over the total government's is almost 20%. The share of the development budget for education over the total development budget follows a more erratic trend. Overall, it represented 8% of the total development budget, and that share has fallen to 5.5% in 2017.

During this period, as seen in data on access and quality, the improvements have been very marginal. The percentage of failures and high achievers in BISE examinations has remained static, NERs have only improved by small margins and literacy rates continue to be low. There is clearly a low value for money.

Absorption capacity primarily matters in development budget. With exception of 2015 utilization of development expenditures have been very low. In 2017 it came down to 30.5%.

Low development budgets result from two factors. Non-release of funds allocated for development by the Finance Department and poor ability to spend. Often it is a combination of the two. Either way, the percentages clearly underline the limitation. Unless the system has the ability to implement and therefore utilise the financial resources, planning will not yield the desired results.

Finally, the issue of the allocation between current and development budget and the optimization of this allocation. The share of salaries has fluctuated around 70% over the last five years. Changes in non-salary and development budgets have remained within a range of 20% and 10% respectively.

In an organization like SELD a high wage bill is normal. It is an area of intense human resource need. The real question appears of performance. Are the salary shares of teachers and other human resources justified in terms of results? Can these results be improved without change in the salary share?

Value for money does not depend on more finances. Political will, better planning, careful monitoring and accountability can improve the results within these expenditures. Even to improve the human resource quality a small percentage of the salary budget is required every year for professional development.

5.3.4 Engagement with stakeholders

This section focuses on two types of stakeholders: the private sector and the community.

Managing and Leveraging the Private Sector

As already mentioned earlier, there has been an exponential increase in private sector schools. The private sector has emerged as a key provider of education services in Pakistan, both in absolute terms and relative to the public sector. The SESP 2014-2018 states that, despite the concerted efforts of the government to make education free and compulsory (with free textbooks, stipends and, in some cases, uniforms and food provisions), the sector is still struggling to provide universal access to quality education.

Figure 37 shows the estimated share of the private sector in enrolment in Sindh. What comes out clear from the figure below is that even though government schools continue to be the most important option of schooling in primary education, the weight of private schooling is quite large. For the province as a whole, one-third of the boys and two-fifths of the girls are enrolled in primary schools that are not managed by the public sector. The proportion is even greater if we include Katchi classes, suggesting that private schools offer ECCE classes that are either perceived as a better alternative to pre-primary classes in public schools, or just that they taper into an unsatisfied demand at this level of education.

The distinction by geographical area is important, because it is in the urban areas where private schools tend to have more presence. Indeed, only 41% of enrolled children attend primary classes in government schools in the urban areas, and 35%-36% when we include Katchi classes. In the rural areas, government schools are for the most part the only option, and therefore the share of enrolment in these schools is much higher than in private schools (88% for boys and 83% for girls).
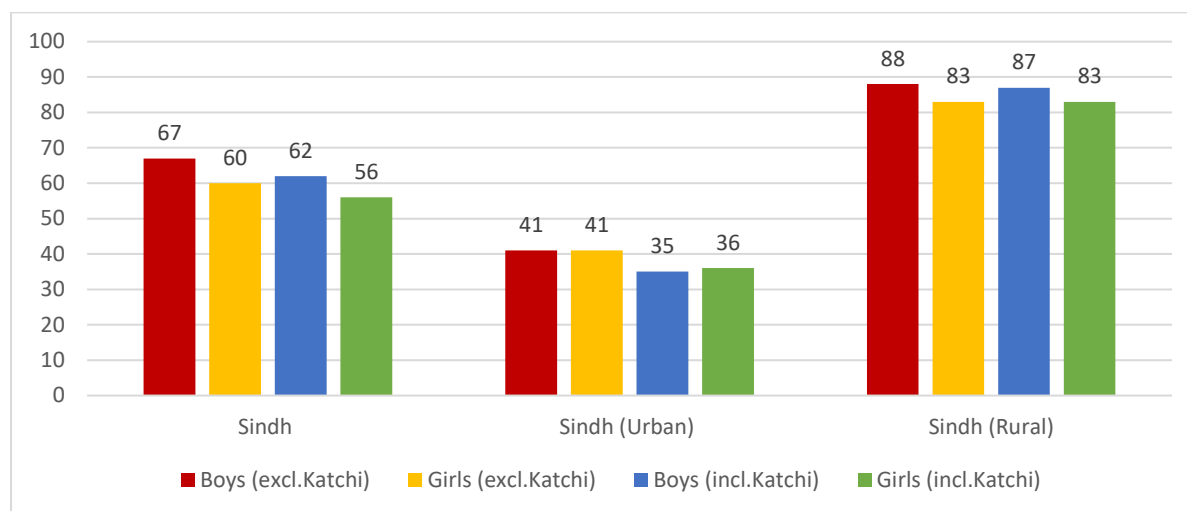
Source: PSLM 2014-15

Greater enrolment in private schools in urban areas is not simply a case of perceived quality differences. Schools in urban areas have not been established by the government in line with shifting geography, and expanding populations of the cities.

Students attending private primary schools spend, on average, more than three times as those attending government primary schools. The average expenditure on education is greater in urban areas as compared to rural areas at all levels of education both in government school and in private schools. However, urban households spend more than twice as much as rural households on each primary school student in private schools. The increase in the private sector share of enrolments, despite these large differences in the costs, suggests that parents perceive an important difference in quality between the government and private schools[79].

Private school presence in such large numbers invoke two policy options:

i. Regulation of private schools
ii. Using interest and capacity of the private sector to expand education outreach.

Regulation of the Private Sector

Sindh Private Educational Institutions (Regulations and Control) Ordinance 2001 requires all private schools to be registered with the School Education and Literacy Department, among other factors. The law regulates the following:

"Curriculum taught in an institution shall be at least at par with the curriculum approved by government for its schools and institutions"

Private schools are also recognized by the Sindh Children's Right to Free and Compulsory Education Act 2013 as one of the categories of schools:

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[79]PSLM – 2011-12 Pakistan Social and Living Standards Measurement page 24

"'school' means any recognized school imparting primary, elementary and secondary education and includes -

(i) a school established by or controlled by the Government or a local authority;

(ii) a school receiving aid or grants, whole or part of its expenses from Government or the local authority;

(iii) a school belonging to specified category; and

(iv) a school not receiving any kind of aid or grants for expenses from the Government or the local authority".

A Directorate General of Private Schools works as part of SELD. The Directorate is responsible for registration of schools. However, in practice, a number of schools continue without registration. Also, no proper database has been created on the basis of the schools registered.

Simple registration of schools does not qualify as regulation. Ideally the state should manage quality in all schools, including minimum standards in private schools. Secondly, content being taught in schools should be in the knowledge of the state.

However, regulation without clarity on the details and capacity within the Directorate General of Private Schools risks potential harassment and suppression of the sector. Also, until the government manages to develop minimal standards and mechanism to implement them it cannot regulate private schools effectively.

Public Private Partnerships

Sindh passed the Public Private Partnership Act in 2010. Later an amendment was introduced to the law to include the social sector.

A PPP Node has been established in the School Education and Literacy Department, as per the requirement of the PPP law. The PPP Node supports the Department in the process for approval of PPP processes from the relevant authority. In the last three years the Government has handed over 21 schools to Education Management Organizations (EMOs).

Another model of public private partnerships is managed by the Sindh Education Foundation (SEF). SEF models include direct support to children for admission to private schools as well as provision of money per child to schools.

While public private partnerships provide a major opportunity for expansion of schooling, the approach faces some risks.

To begin with, the low capacity of the Public Private Partnership Node in SELD, which has effectively only two staff. To date success in handing over schools to EMOs has been due to support from Sindh Community Development Program (SCMP) and Sindh Capacity Development Project (SCDP), respectively, of SBEP. As these Projects end in one year's time, capacity of PPP Node will become extremely critical. Unless its various positions are filled and personnel trained the EMO, or any other model, will not expand. Even the existing programmes will be at risk.

Secondly, the Education Management Organizations (EMO) model has the potential to be successful in providing good quality education to students. EMOs responsible for schools built under USAID's

Sindh Basic Education Programme and handed over have achieved success in communities[80]. While partly the high-quality buildings of these schools inspire the community members, the success of the management's approach to gaining the confidence of the parents cannot be discounted. However, the costs required make it difficult to expand beyond certain numbers. There will have to be a cost review.

Thirdly, the development and expansion of PPPs has been done in disconnect with the education department. At the end of the day, the district education officer has the responsibility to support all schools in the district. These include the schools managed as PPPs. Currently, the district managers feel disconnected with schools managed in the PPP mode.

Community Engagement: School Management Committees

Community engagement has been a very weak area for schools in Pakistan in general. Sindh has been no exception. The problem lies on both the supply and demand side. Poor parents have little time or interest in schools. Similarly, head teachers have neither the training nor the inclination to engage with community through the school management committees (SMCs). SMCs are effective in a few cases where head teacher has the requisite capacity.

Recently, in pursuit of a rule made under Free and Compulsory Education Act 2013, elections were held for SMC. For the first time seats had been reserved for women. While elections have been conducted many of the SMCs are still to be notified. While these SMCs are notified it will be important to train head teachers in engaging communities in school improvement.

It was reported and confirmed by a Notification shared that the SMC rules, composition, and functions were developed. The SMC fund transfer was streamlined. The joint account system, to receive SMC funds, was implemented for transparency. However, challenges remain. Grants given do not automatically convert into usage.

In the FGDs conducted the opinion on poor functioning was almost unanimous. Two critical problems were identified. Firstly, the funds provided are very small (Rs. 22,000 per annum) and secondly the requirements for documentation of expenditure is often unrealistic. However, there also appears to be issues with the capacity of head teachers and district officers to engage the community effectively in schools.

5.4   Conclusion

If requirements of Article 25A are to be achieved then the entire governance and management approach will need to be rethought. Requirements of Sindh Children's Right to Compulsory and Free Education Act 2013 call for a seismic shift in approach to governance and management. The environmental factors of political interference need to be shifted back even further. Current capacities of organizations and functions need to be reviewed. These include organizations managing schools and those that produce quality inputs like curriculum, textbooks, teacher training and assessments. Capacity of decentralized levels is the most critical. More holistic and strategic planning, effective monitoring with follow up and ongoing evaluations are necessary, with organizational structures that support these functions and human resources with the appropriate capacities. Data driven monitoring with accountability will be key. Even as private sector capacity is leveraged to move into more cost-effective models, capacity of the state to regulate education will be important for success on scale.

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[80] USAID. Gender Evaluation of G2G Component of SBEP

Chapter 6. Education Finance in Sindh

Key Findings:

- Public financing of education in Sindh has increased since 2013-14. Total budget allocation to the education sector increased 82% in nominal terms between 2013-14 and 2017-18, and 25.5% in real terms.

- However, spending rates have not improved significantly. This is particularly the case of the development and non-salary budgets. The district level spending, on the other hand, remained strong during all reported periods, primarily because a major portion corresponds to salary expenses.

- Future strategic plans need to address the low capacity of budget absorption in order to be more effective in reaching the stated policy objectives.

- Various types of inefficiencies are observed in the allocation of resources. Expenditures tend to favor urban, relatively wealthier districts. There is virtually no relationship between expenditures and learning outcomes at district level. In sum, resources are not being efficiently utilized and are not having an impact on improving children's school participation or learning.

Introduction

This chapter provides a review of education sector finance in Sindh between 2011 and 2017. The core of the analysis of financial trends has been conducted with data from the Systems, Applications and Products (SAP) database, implemented under the Project for the Improvement of Financial Reporting & Auditing (PIFRA).

Two points are stated below at the outset, to ensure accurate representation of the numbers presented in the chapter:

- District Governments were in operation until 11 November 2011. The data presented for districts hereunder is by geographic region, not district governments. Thus, for district numbers the comparison of 2011 and 2012 may not be relevant.
- College education was separated from education and literacy in 2016-17. The budget for college education was around Rs. 15 billion in 2015-16.

6.1   National and Provincial Economic Environment

As was advanced in chapter 1, Pakistan has seen sustained economic growth in the last five years. On the other hand, it has been estimated that Sindh grew at a slower rate than the national economy, averaging three to four percent per year in the recent past.[81]

The recent growth has helped in increasing tax collections, as well as the size of the transfers made to the provincial governments by the federal government (see Figure 38). Tax collected over the years has averaged between 10-12 per cent of the GDP since 2012-13.

Figure 36: Transfer to Provinces from Divisible Pool 2012-2016 (Rs Billion)
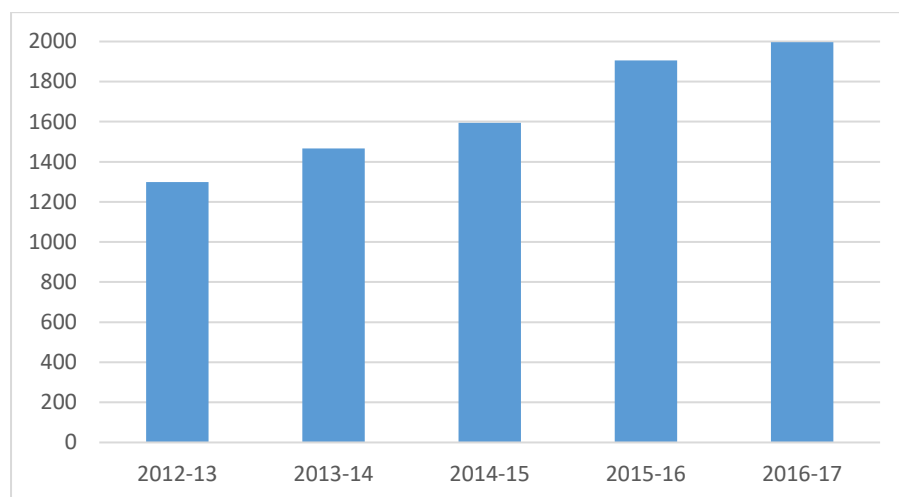
Source: Planning Commission of Pakistan

Figure 39 shows the total transfers made by the Federal Government to Sindh, under the National Finance Commission (NFC) award, over the last five years. The average yearly increase in transfers from 2011-11 to 2016-17 has been Rs 51.5 billion. In 2016-17 the Sindh Government received Rs 576.1 billion from the divisible pool, or 28.9%. Given the positive growth trend and increasing tax revenues Sindh is expected to receive larger amounts under the federal transfers in the coming years. Also, the preliminary figures of the 2017 national population census suggest a higher growth of population in Sindh and KP relative to Punjab, which will have a direct impact on the National Finance Commission (NFC) Award formula. In consequence, Sindh's share is expected to increase. Although the provincial revenues have increased, the reliance is still majorly on the federal transfers.

Figure 37: Total Transfers to Sindh from the Federal Divisible Pool 2011-2017 (Rs Billion)

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[81] Pasha, Hafiz (2015). Growth of the Provincial Economies. Institute for Policy Reforms
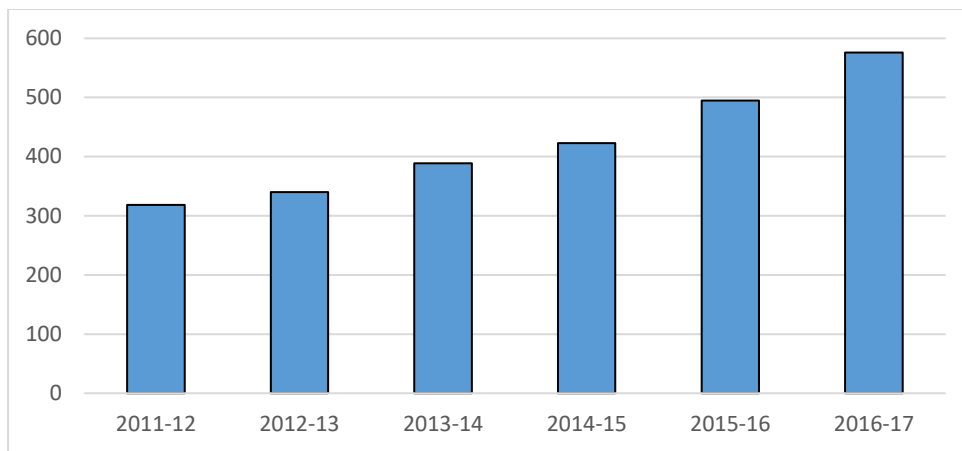
Source: Compiled from Federal Budget Books

6.2   Education Budgets and Expenditures in Sindh

6.2.1 Overall Public Funding of Education

Overall, public funding for education has increased in Sindh, especially over 2011 and 2015. Expenditure has also grown but not kept the same pace. Salary budgets are mostly spent and non-salary budget spending is very low.

The total government budget in Sindh reached Rs 1.034 trillion in FY-2017-18, 82% higher than the budget at the start of the SESP in 2013-14, representing a real increase – once accounting for inflation during the period – of 25.5%. This, however, has not translated into higher expenditures of this magnitude. The expenditure in 2017-18 was 35.7% higher than the value in 2013-14, resulting in a real growth of 15%. The 2016-17 expenditure was somewhat higher.

Figure 38: Total Government Budget and Spending in Sindh, 2011 – 2017 (Rs Billion)
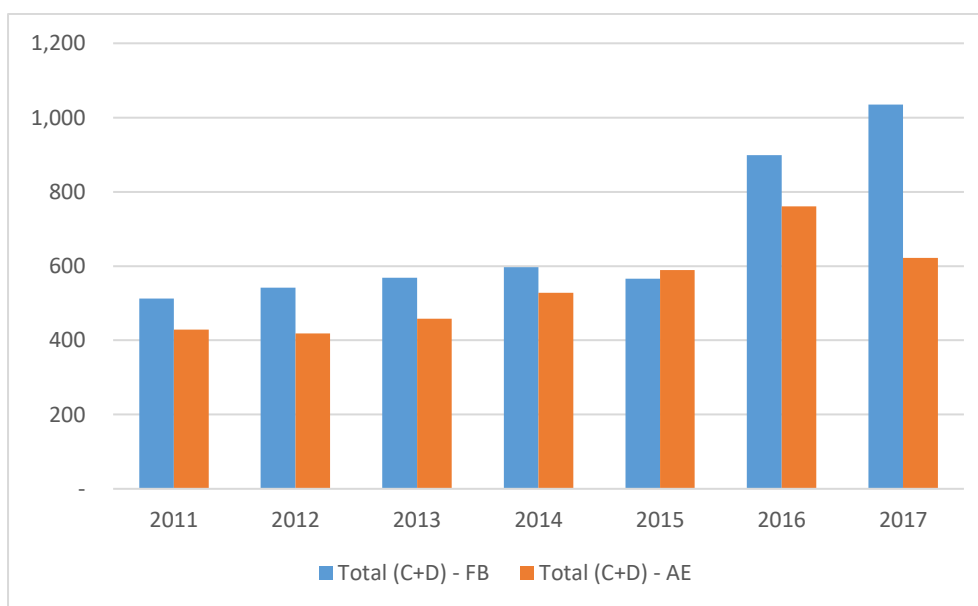
Note: FB – Final Budget; AE – Actual Expenditure; C –Current; D-Development

All the provinces earmarked a significant portion of their total provincial budget for education in 2016-17. The highest portion of provincial outlay has been recorded for Khyber Pakhtunkhwa where 24% of the budget is earmarked for education. Khyber Pakhtunkhwa is followed by Sindh (20%) Punjab (18%), and Balochistan (17%).[82]

The education budget in Sindh has shown a steady increase since 2011, reaching Rs 191 billion in 2017-18. The last figure reflects a 110% growth in the volume of the total education budget in real terms over 2011. Despite this important trend, it has to be noted that most of this increase took place between 2011 and 2012. If we consider the evolution since 2012, the growth of the education budget in real terms as of 2017 has been just 4.8%.

In terms of the total budget of the government of Sindh, the share of public resources allocated to education grew from 13.4% in 2011 to 18.5% in 2017. However, two periods can be distinguished. Between 2011 and 2015, the share of the education budget over the total increased a staggering 90%, reaching 25.5%. In the past two years, however, the trend has reversed, and the weight of the education sector in the government budget has fallen to the current 18.5%.

The education current budget represented 15% of the total current budget in 2011, and nearly doubled the next fiscal year. The share hovered around 26%-28% until 2015, when it began to fall. In 2017, the share of the education current budget over the total government's is almost 20%. The share of the development budget for education over the total development budget follows a more erratic trend. Overall, it represented 8% of the total development budget, and that share has fallen to 5.5% in 2017.

Figure 39: Shares of Education Budget (Total, Current and Development) in Total Budget, 2011-2017 (Percent)
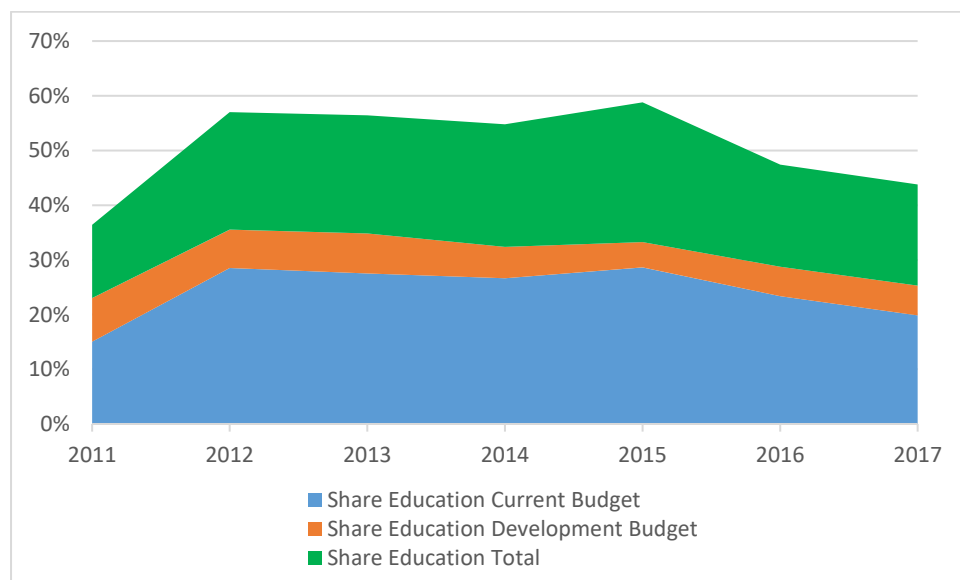

Note: figures for final budget; current and development for education refer to School Education only

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[82] I-SAPS (2016-17), Public Financing of Education in Pakistan, Analysis of Federal. Provincial and District Budget 2010-11 to 2016-17

The SESP 2014-2018 identified low utilisation rates of the education budget as one of the major challenges for the sector, although this is a pervasive problem throughout the public sector in the province. The utilisation rates of the current budget show a declining trend; however, the rates are reasonable with the exception of the last year (see Figure 42). The development spending, on the other hand, has remained very low, averaging close to 50%. The 2015-16 numbers suggest more than 100% utilisation but that is due to budgeting errors or external funds being added after the budgets were posted.

Figure 40: Utilisation rates of Current and Development Education Budgets (Percent)
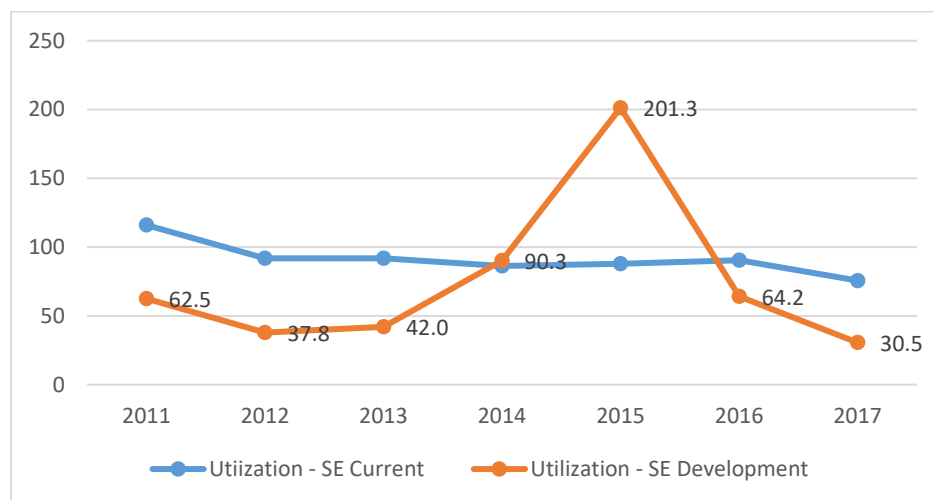
Note: figures refer to School Education only

An analysis of the education expenditure in real terms shows that overall expenditures in education grew in all years of the period, except 2017, when expenditures fell by 15%. Both current and development expenditures decreased: current expenditure fell by 20% and development by 48% in 2017 compared to the previous year.

At the consolidated level, two-thirds of the education budget corresponds to salaries. The weight of salaries on the budget, however, has decreased since 2013, when it represented 71.5% of the total education budget. The development budget corresponds to one-tenth of the total budget. After a sharp reduction in the overall participation in 2014, the development budget slowly returned to its previous level of relevance. The remaining 23% corresponds to the non-salary budget.

Excluding 2015 (an anomalous year), utilisation rates of the development budget averaged 70%. Utilisation rates of non-salary recurrent budget remained extremely low, as low as 3.7% in 2013. Cumbersome procedures and capacity issues might be some of the reasons behind the low utilisation rates.

Figure 41: Shares of Final Education Budget under Spending Heads, 2013-2017 (Percent)
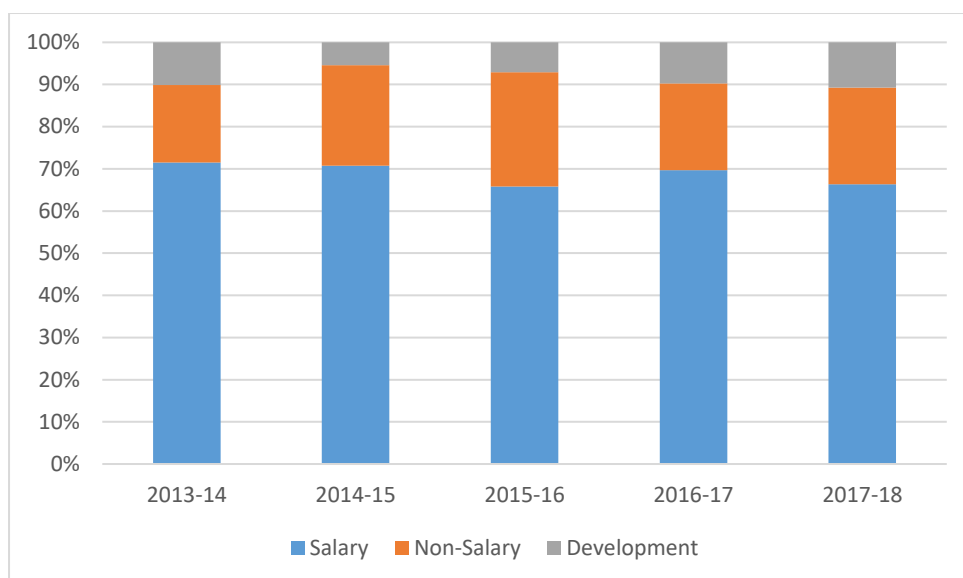
The due to strengthened teacher recruitment processes in recent years and the reduction in ghost teachers, the share of employee costs has reduced from 83% to 79% in 2014-15

Table 3.5: Actual expenditures by object classification of expenditure (PRs million)							
	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15
Employee costs (salaries and pensions)	32,546	38,981	53,443	47,711	80,693	86,919	92,433
Asset creation	1,688	4,038	5,241	8,951	4,957	5,701	7,066
Repairs and maintenance	459	337	444	325	220	235	439
Others	3,596	9,515	13,167	10,577	12,181	12,664	16,754
Total	**38,289**	**52,870**	**72,295**	**67,564**	**98,051**	**105,518**	**116,692**
Source: Sindh Public Expenditure Report; World Bank 2017							

Table 3.5: Actual expenditures by object classification of expenditure (PRs million)							
	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15
Employee costs (salaries and pensions)	85%	74%	74%	71%	82%	82%	79%
Asset creation	4%	8%	7%	13%	5%	5%	6%
Repairs and maintenance	1%	1%	1%	0%	0%	0%	0%
Others	9%	18%	18%	16%	12%	12%	14%
Total	100%	100%	100%	100%	100%	100%	100%

6.2.2 Household Expenditures on Education

Households spend significant amounts on education, on items ranging from fees to uniforms, transport to meals. An analysis of the PSLM 2015-17 shows that at the aggregate level households in Sindh spent Rs 123.9 billion in the year of reference. Per household expenditure amounts to Rs 18 662. This varies widely across districts.

The weight of household education expenditures on total household consumption is highest in Karachi (61% of the total household expenditures), followed by Hyderabad and Jacobabad (both 8.2%). The mean spending per household also showed similar results (see figures below). The mean household expenditure in Karachi was the highest at RS 36 510 and lowest was in Mithi district at Rs 753.

Figure 42: Household Expenditure on Education by District, 2015-16 (Total and Shares on Total Household Expenditure)
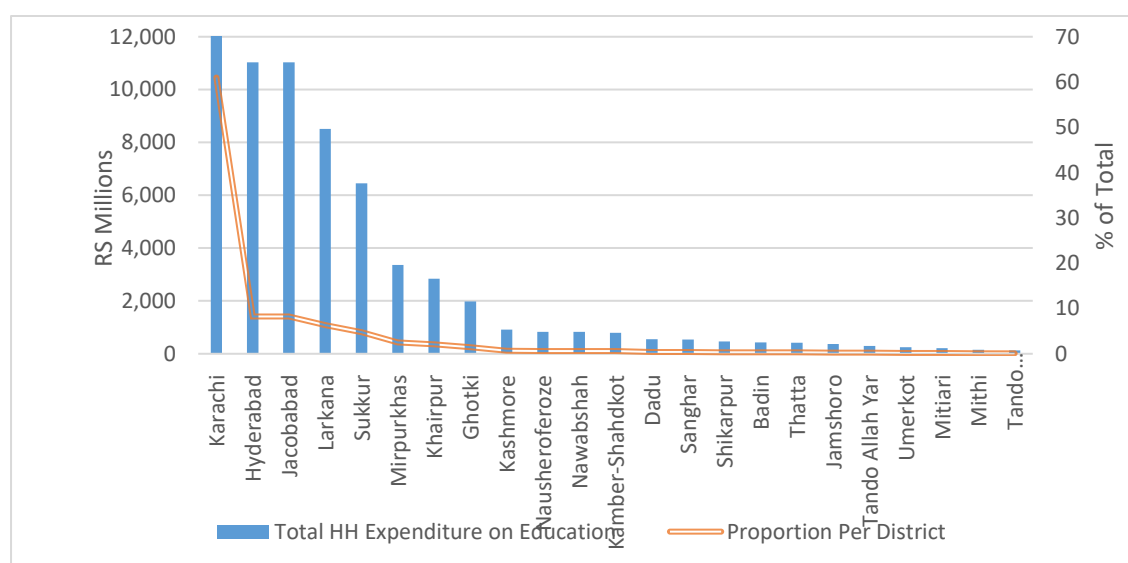
Figure 43: Mean Household Expenditure in Districts of Sindh 2015-16 (Rs)

157
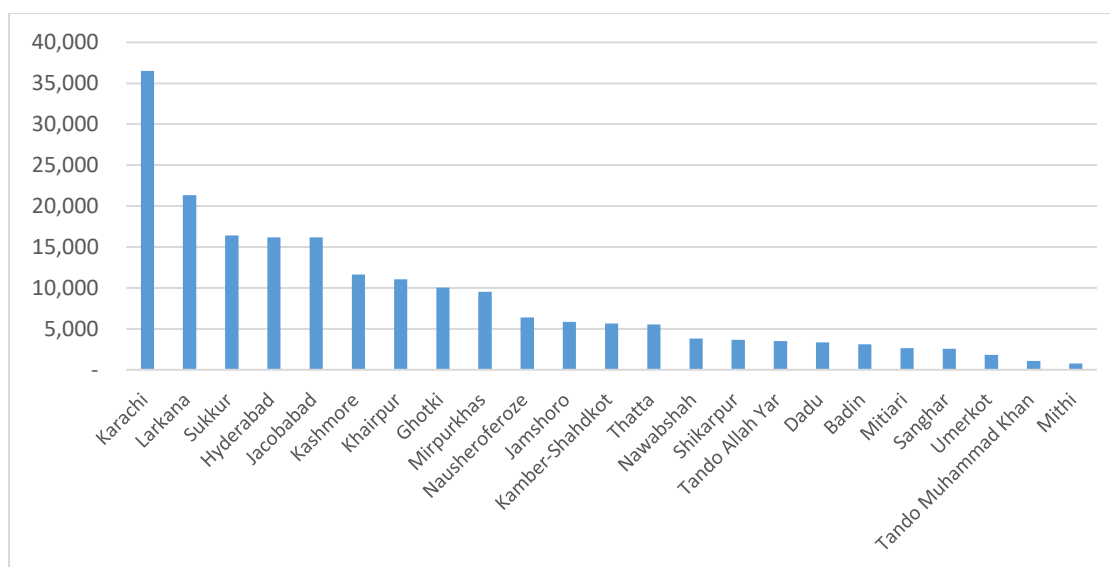
6.3 Expenditures by Level of Education

The allocation of the public budget for education in Sindh across levels shows some imbalances. While pre-primary and primary education receive half of the recurrent budget, middle education receives a bit over one-fifth of the budget. In turn, 12.4% of the recurrent budget is allocated to secondary education and 2.8% to higher secondary education (table 56).

Table 54. Distribution of Education Recurrent Expenditures by Level of Education 2017-2018

Department	Level of education	Million Rs	%
School Education and Literacy Department[i]	Pre-and Primary Ed	69 956	50.5
	Middle Ed	30 152	21.8
	Secondary Ed	17 183	12.4
	Higher Secondary Ed	3 868	2.8
	College education	636	0.5
College education Department		12 096	8.7
Universities and board Department		4 025	2.9
Special Education Department		612	0.4

Source: Sindh Finance Department. [i] Includes SELD admin expenditures

6.4 Financing of Key Reform Areas of SESP 2014-2018

There is limited evidence that the SESP 2014-2018 was able to leverage expenditures in key reform areas identified in the strategic plan. Reform budgets were largely unspent, and presented a volatile allocation and spending pattern. In the last seven years, a total of Rs 218.45 billion was allocated to key reform areas, including standardized testing, monitoring, school construction and rehabilitation, School Management Committees, textbooks, girls' stipends, learning assessments, capacity, technical assistance, expenditure tracking and the Sindh Education Foundation. Against this, only Rs 124.13 billion was spent, suggesting an overall utilisation of only 56.8%.

Figure 44: Final Budget and Utilisation Rate on Reforms (Rs Billion, Percent)
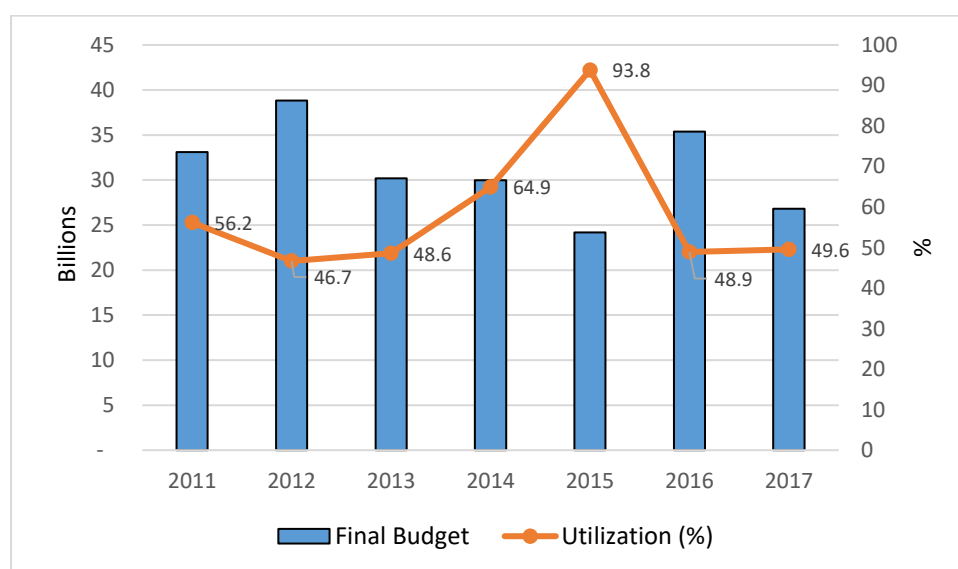
The largest allocation was made to the category of 'Other Reforms', which included special projects and school rehabilitation and construction. This allocation amounted to Rs 205.6 billion; however only just above half of it was spent. The second largest allocation was made to the Sindh Education Foundation, amounting to Rs 22.3 billion, out of which 86.6% were spent. A total of Rs 11.6 billion was allocated for free textbooks, Rs 10.5 billion for school rehabilitation, Rs 9.4 billion for girls' stipends, and Rs 7.9 billion for School Management Committee (SMC). Out of these, the utilisation rates were highest for textbooks and SMCs (above 80%), but low for the stipends (53%) and particularly for infrastructure, of which only one-third of the budget was spent.

Table 55: Budget Shares of Reform Areas, 2011 – 2017 (Percent)

| Final Budget	2011	2012	2013	2014	2015	2016	2017
Standerdized Tests	0.15	0.26	0.46	0.58	0.83	0.54	0.75
Other Reforms	72.31	72.62	74.21	75.94	62.60	69.51	48.52
Monitoring / SEMIS	1.23	0.26	0.36	0.44	0.48	0.21	0.40
School Rehabilitation Programme	13.77	12.88	3.17	0.00	0.00	0.00	0.00
School Management Committee	3.95	3.86	3.64	2.27	5.11	2.65	4.29
Stipend to Girls	3.84	3.61	4.65	4.34	4.14	4.24	5.59
Free Text Books	3.32	3.35	4.64	6.75	7.20	5.65	7.83
Teachers / Managers Training	0.30	0.26	0.40	0.40	1.53	0.23	0.88
Incremental Technical Assistnace to Staff	0.08	0.14	0.33	0.52	0.84	0.64	1.16
Learning Assessment / PEACE	0.17	0.10	0.02	0.20	0.27	0.19	0.25
Capacity Building	0.04	0.05	0.28	0.45	0.68	0.43	0.36
Expenditure Tracking/Monitoring	0.39	0.19	0.50	0.72	1.03	0.71	0.95
Grant in Aid to Sindh Education Foundation	0.45	2.42	7.34	7.39	15.29	15.00	29.02

6.5 District-level Trends of Education Budgets and efficiency issues

The analysis in this section provides the trends on budget and expenditures made in the education sector in each of the 24 geographical districts of Sindh.

Among all districts in Sindh, Karachi is allocated the highest share: one-third of the total is destined for public education in this area. The lowest share is allocated to Sajawwal, with 0.37% of the total budget. These figures in themselves, however, do not tell the full story, as they may well be responding to the size of the public education system in the respective districts. To understand the coherence of the budget allocation, at a minimum the budget shares must be compared with the dimensions of the public education system.

In order to assess the consistency of the budget shares by district, this report assesses the relationship between budget allocation with respect to the density of schools and of students at the geographical district level. This relationship can be illustrated as in Figure 47 below, where for an equitable distribution, the farther the bubble is from the origin on a 45-degree line, the more inflated it should be, indicating that the district must be allocated a higher budget.

Figure 45: Consistency of the Budget Allocation with Respect to Density of Schools and of Students, 2016-17
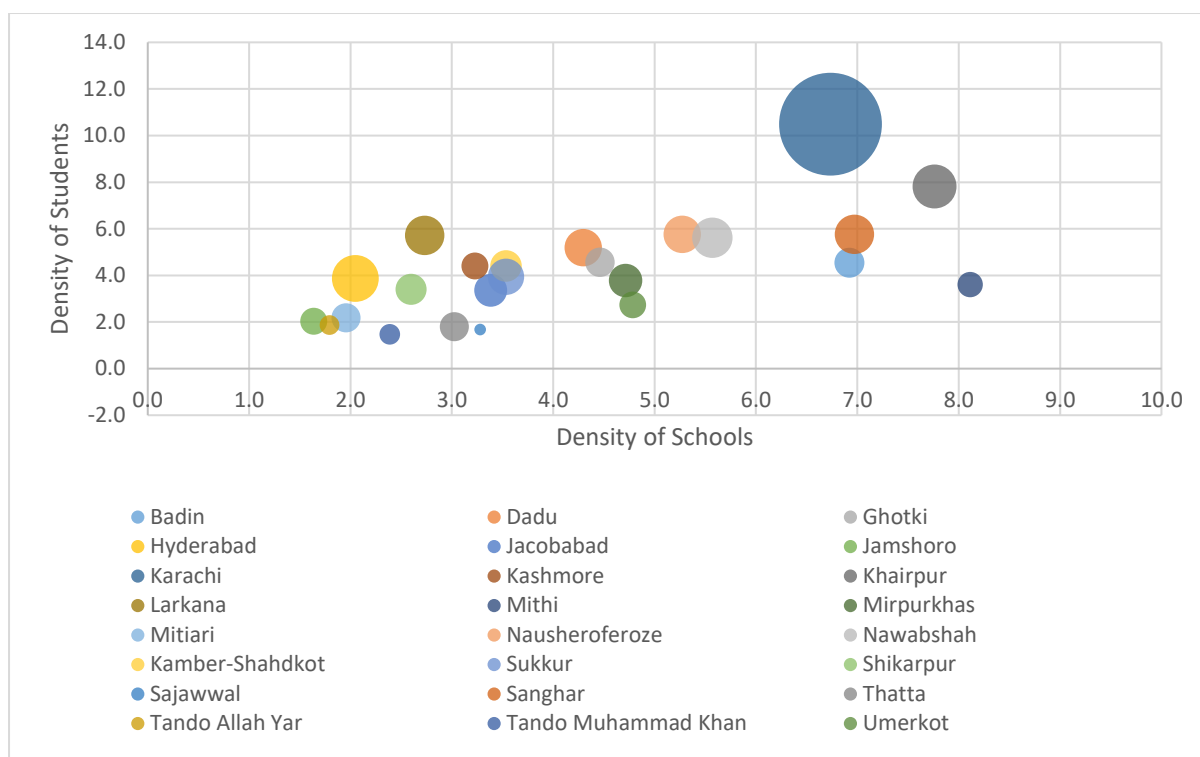
The budget allocation that follows the figure above shows a fairly consistent distribution among districts with the exception of Sajawwal getting significantly less than what it should correspond, given the density of schools and students, and also Tando Mohammad Khan, Mithi and Badin. Conversely, Hyderabad is getting proportionately more resources with respect to the budget that would correspond to the density of schools and students. There is a need to revisit some the district budget allocations to be more consistent with the density of schools and students in each of these units.

Another way to look at the resource allocation is to assess per-pupil expenditure by districts. A recent Public Expenditure Review which used data from fiscal year 2015, found that per pupil spending tends to favour a few, more urban and wealthier districts[83]. The expenditure is skewed towards the districts of Karachi and Hyderabad, where student-teacher ratios are low. Conversely, Ghotki, a more disadvantaged district, registers the lowest per-pupil expenditures and also the highest student-to-teacher ratio.

Turning to the relationship between financial resources and outcomes, the Public Expenditure Review report related total expenditures in education by district with SAT test scores of students in grades 5 and 8. It found very little, if any, impact of expenditures on learning outcomes at district level. In sum, resources are not being efficiently utilized and are not having an impact on improving children's school participation or learning.

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[83] World Bank. 2017. Pakistan Sindh: public expenditure review. Washington, D.C.: World Bank Group

6.6   Expenditures on Employees

This section of the chapter describes the budget allocation and expenditures on employees of the School Education and Literacy Department, at the aggregate level and at the district level.

At the aggregate level, Rs 465.6 billion were allocated for employee related costs in education in the SESP period. Actual expenditures (utilisation) grew over the same period, reaching a total of Rs 407 billion (87.5% aggregated). In the last two years, however, utilisation rates have dropped, which could be due to higher than average increases in the allocated budget for personnel.

Figure 46: Total Employee Costs in Education 2012-2017 (Rs, Percent)
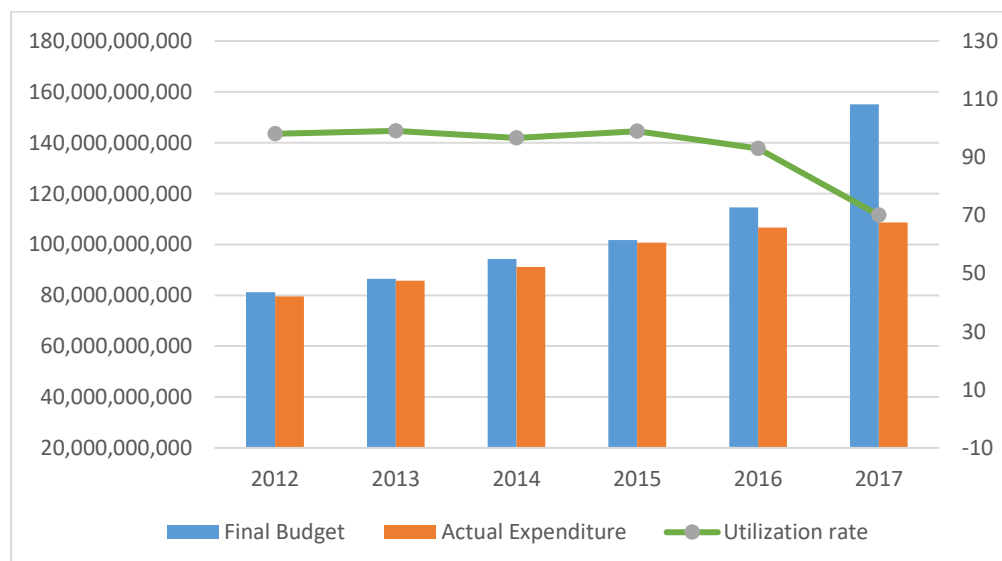
The figure below shows the average annual spending per teacher per district. On average, Rs 688,000 per annum, per teacher was spent in 2016-17 across the province. Nine districts show annual expenditures per teacher that are above the provincial average. In particular, Sajawwal (Rs 1.5 million), where there is a low density of students, presents teacher expenditures that are over twice the provincial average. In Karachi (Rs 1.2 million), teacher expenditures are 1.8 times the average; in Thatta (Rs 0.98 million) they are 1.4 times the average; and in Hyderabad (Rs 0.76 million) teacher expenditures are 1.1 times the provincial average. The lowest expenditure per teacher corresponds to Kashmore, at an annual Rs 423,868, or 62% below the average.

Figure 47: Expenditure per Teacher by District, 2016-17 (Rs)
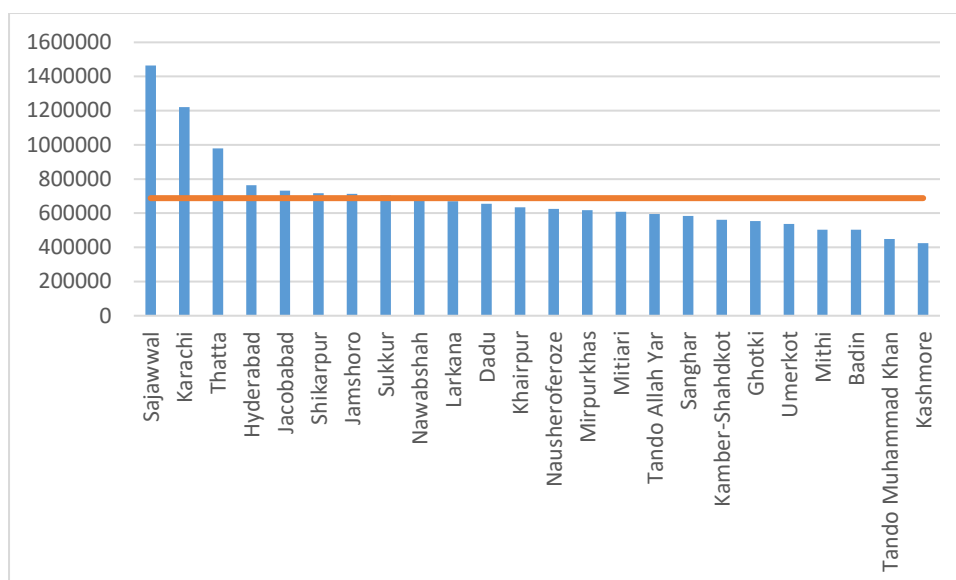
6.7   Public Financial Management Reforms

The Government of Sindh has been undertaking a public financial management reform, to strengthen budget credibility and accountability, among other objectives, and through this means to ensure that sufficient resources are allocated to support the government's priorities, and are spent more efficiently and effectively. The SESP supported the Government of Sindh's Medium-Term Education Sector Reform Program (SERP). The financing framework of the SERP has been integrated in the Medium-Term Fiscal Framework (MTFF), and the School Education and Literacy Department is one of the eight pilot departments for which a Medium-Term Budgetary Framework (MTBF) is prepared.

The most recent assessment of the Public Expenditure and Financial Accountability (PEFA) assessment in 2013 identified some of the following issues in relation to public financial management:

- Credibility of the budget: The aggregate expenditures have remained below budgeted expenditures, as most units have not been able to spend the allocated amounts. This was attributed to lower collection of taxes and/or over estimation of resources.
- Comprehensiveness and transparency: Generally, Sindh was rated well on the indicator, especially due to the timeliness of subnational budget allocations.
- Policy-based budgeting: There was a general lack of policy-based budgeting and this is considered to hamper more meaningful allocations in sectors. Key sectors that were devolved after the 18th Amendment such as health, education, water, agriculture and environment were all without provincial policies, at the time of the assessment.
- Predictability and control in budget execution: This was seen as a weak indicator. A weak internal control environment, high tax arrears, and the absence of both internal audit and tax audit were some of the highlighted issues.
- Accounting and reporting: Strong systems are present, however, there were some issues identified with bank reconciliations. There seems to be no standard way of tallying up payments with the bank, resulting in issues when reporting expenditures.

In response to the weaknesses identified in the 2013 PEFA, the Sindh Government approved a comprehensive Public Financial Management Strategy in 2014-15. The key areas under the strategy include:

- Strengthening planning and budgeting
- Improving budget execution, reporting, accountability and transparency
- Enhancing resource mobilization for generating self-revenue
- Putting in place budget controls, auditing and oversight checks

Some of the achievements that have been realized in reforming the public financial management system in Sindh include:

- Comprehensiveness and transparency: The Sindh Government now uses a new accounting model for formulating and reporting on the budget which follows a robust international classification standard. In addition, all payments are processed through the Government Financial Management Information System (GFMIS), which ensures no payment is executed without a budget; this eventually eliminates any chances of un-reported revenues or expenditures.
- Policy-based budgeting: The Sindh Government now produces a Budget Strategy Paper, which is a policy document assisting public understanding of the fiscal situation and proposed budget strategies of the Government. It provides a 3-year rolling plan that sets the priorities of the Government in medium term. The budget calendar is well defined and adhered to, and the budget process is adequately guided through the issuance of the Budget Call Circular. Budget ceilings are also issued to line departments well in advance. Furthermore, there has been timely approval of the provincial budget by the legislature in each of the last three years. There is however scope to improve the linkages between policy-making, planning, and budgeting by developing more informed policies and using these to construct budgets.[84]
- Budget implementation: In order to strengthen internal control, an Internal Audit Function has been established in the Finance Department and the same exercise will be replicated in line departments.
- Institutional framework & support system: Five Operational Reform Groups (ORGs) on Planning, Budgeting, Accounting, IFMIS and improving Internal Financial Management Capacity have been notified and operationalized.

6.8   Conclusion

This chapter reviews the financing of the education sector in Sindh between 2011 and 2017.

A general observation is that the public financing of education has increased during this period, in nominal and real terms. However, the spending rates have not improved significantly. This is particularly the case of the development budget and the allocations for key reform areas supported by the SESP. The Non-Salary budgets are not being utilized fully, either. In consequence, large amounts of budgets have been committed but being made to surrender. The district level spending, on the other hand, remained strong during all reported periods, primarily because a major portion

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[84] Public Financial Management Reform Strategy; 2014/15 – 2019/20

corresponds to salary expenses. Future strategic plans would need to address the low capacity of budget absorption in order to be more effective in reaching the stated policy objectives. Some key recommendations are presented below:

1. **Design of Future SESP:** There is limited evidence that SESP 2014-18 was able to leverage extraordinary expenditures in key reform areas. The reform budgets were largely unspent and represented a volatile allocation and spending pattern. Against the overall target, only 56.8% was being spent. The next Plan may tie the spending more closely to different heads, perform a stronger tracking, and seek course corrections during the implementation of the Plan. The introduction of quarterly budget execution reports for the education sector could contribute to resolve this issue.

2. **Focus on Institutional Capacity**: A marginal amount of money has been spent on building individual and institutional capacity. It is important that the next sector plan follows up closely on these areas, as better functioning institutions and capable human resources will increase the effective and efficient spending in the education sector.

3. **Public Financial Management Reforms for Education Sector**: To allow for sustainable improvements in the education sector, it is imperative that the next Sector Plan is costed, and targets for spending updated annually to provide directions to education stakeholders, in terms of reforms and priorities. Similarly, budgeting for the education sector is currently done mostly on an incremental basis, with some large positive and negative jumps observed. There is a need for better financial management capacity in School Education and Literacy Department. A Financial Management Cell (FMC) may be established to look at areas of reform on internal audit, production of Budget Execution Reports, and general improvements in PFM for education service delivery. It would be highly important to include support on PFM reforms as one of the strategies in the SESP 2019-2023. A comprehensive PFM Reform Strategy may be developed for the sector at the beginning and implemented under the Plan, drawing in the provincial PFM strategy.

Chapter 7. External Efficiency

Introduction

The focus on education is particularly important for Pakistan because of the demographic pressure facing the country. Pakistan has second largest number of young people in its history with a median age equivalent to 23.8 years[85]. By 2025, 63% of the population will be under the age of 30[86]. This 'youth bulge' is creating a large pool of young people far in excess of the number of training places or jobs currently available, which could have economic and social consequences including that of youth radicalization.

This external efficiency analysis assesses the economic and social benefits acquired from investment in education in Pakistan, and more specifically in Sindh. The analysis is important to: i) plan improvements in the literacy and numeracy skills developed at the school level and ii) plan the supply of post-school training, to help direct public funding towards courses that enhance employability.

The chapter begins with an analysis of the economic impact of education. To this end, it depicts the main characteristics of the labour market in Sindh, its dynamics and structure across employment status, occupation types and sectors, as well as the informal sector, wages, youth and female employment; then the chapter focuses on the economic return to education. The second part of the chapter outlines the social impact of education, covering the areas of health, fertility and living conditions.

7.1 The Economic Impact of Education

The lack of a suitably qualified workforce is a barrier for economic development. The Pakistan Competitiveness Report 2009 ranks skilled workforce issues at number 6 (out of 15) among the most problematic factors for doing business in Pakistan. A majority of firms find themselves in an equilibrium characterized by low availability of skills, low productivity and poor technology adoption. Moreover, the labour market in Pakistan is not a single homogenous entity. In actuality, it is made up of distinct and separate markets, which are influenced by levels of mobility, cultural barriers, the nature of employment and the recruitment methods. This section outlines the main characteristics of the labour market in Pakistan and in Sindh. More specifically, the section depicts some of the links that can be observed between the labour market and education, trying to identify the economic value of education in Pakistan and in Sindh

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[85] Pakistan Demographics Profile 2018
[86] STEVTA Tracer Study of Graduates 2016

7.1.1 Labour Force Participation

Labour force participation rates in Pakistan have remained fairly stagnant. The figure below shows that the participation rate in Sindh has stayed close to 50% since 2005-06.

Figure 48. Labour Force Participation Rate by Province, 2005-2014 (percent)
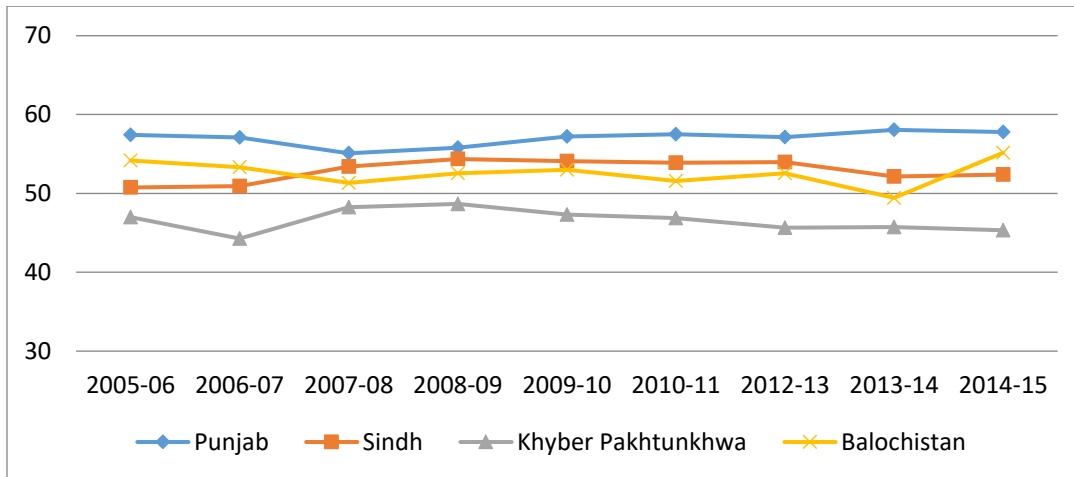
Source: DWCP Pakistan, 2017

Similarly, the Employment to population ratio in Sindh has stayed around 50% (see figure below).

Figure 49. Employment to Population Ratio of Population 15-64 Years by Province, 2005-2014

Source: DWCP Pakistan, 2017

Sindh's labour force participation rate for males over 10 years of age is quite high at almost 70% while the majority of females over 10 years of age remain outside the labour force. On the contrary, the unemployment rate for males over 10 is only 3.57% while the unemployment rate for females over 10 years is much higher at 10.92%. This means that despite far fewer females entering the labour force their rate of unemployment is higher than males.

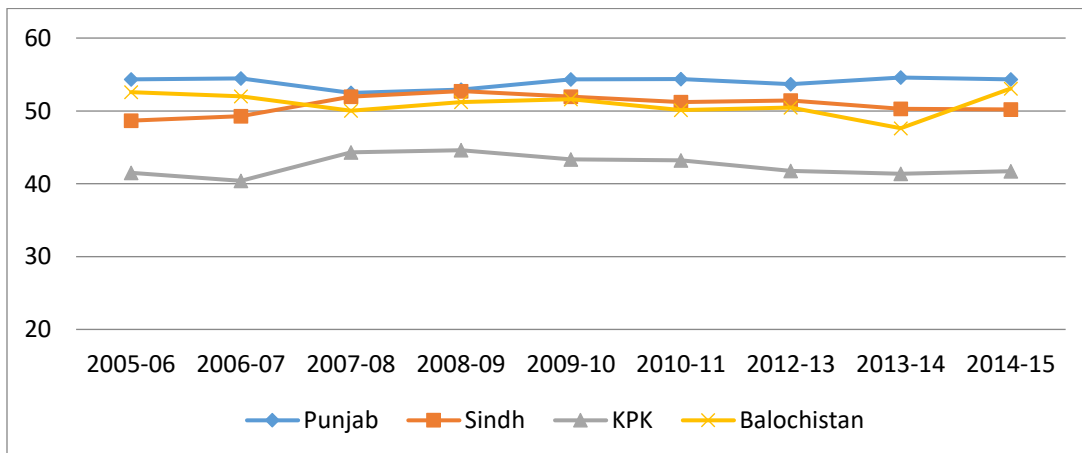Table 56. Labour Force Participation Rates and Unemployment Rates by Sex in Sindh, 2014-15

	Labour Force Participation Rate	**Unemployment rate**
Male	69.19	3.57
Female	13.5	10.92

Source: Labour Force Survey, Pakistan Bureau of Statistics, 2014-15

7.1.2 Classifications of Employed Workforce

In Sindh, the Agriculture sector's share of the labour force is 38%, followed by the services sector at 37% and industry at 37%[87]. Agriculture's share of the labour force has decreased since 2006, and today is not a high growth sector. However, it is still a significant one absorbing labour in rural areas of the province. Given that it is still the largest contributor to Sindh's economy, the fact that it is the least productive sector by a margin explains labour productivity rates at the national and provincial level.

The distribution of workers by employment status shows that the current labour force in Sindh is largely constituted of employees, followed by those who are self-employed and those doing family work. From 2013-14 to 2015-16, the percentage of the labour force self-employed in agriculture and non-agriculture related activities has declined, while the percentage of those contributing to family work has increased slightly. A large proportion of the self-employed and those working as family workers (around 28% of the labour force collectively) are likely to be employed in the informal sector. This reflects low levels of education and bottlenecks in the structure of the economy.

Table 57. Employment by Status in Sindh, 2013-14 and 2015-16 (percent)

Employment Status	**2013-14 (%)**	**2015-16 (%)**
Employer	0.48	0.99
Self-employed: agriculture	12.71	10.21
Self-employed: non- agriculture	6.53	5.74

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[87] Decent Work Country Profile, Pakistan, ILO 2017

Contributing family worker	15.16	18.00
Employee	65.12	65.06

Source: HIES, Pakistan Bureau of Statistics, 2013-14, 2015-16

A large proportion (about 73%[88]) of the workforce in Pakistan is dependent on the informal sector for its livelihood. Pakistan's large informal economy is mainly due the high cost of being in the formal economy, which includes complex registration, licensing and taxation issues, and cumbersome regulation. Informal businesses are found in both rural and urban areas in all sectors including agriculture, fisheries, economic growth industries, hospitality, services etc. Many informal sector workers also work as domestic servants. The workers absorbed into the informal economy may have been unemployed otherwise; however, these workers have fewer safeguards compared to workers in the formal sector in terms of adherence to legal minimum wage, access to social security benefits and adequate workplace safety.

The following figure shows informal sector employment by province in Pakistan. Although Sindh has the lowest percentage of informal sector employment among the four provinces, it is still very high at over 65%.

Figure 50. Informal Sector Employment by Province, 2005-2014 (percent)
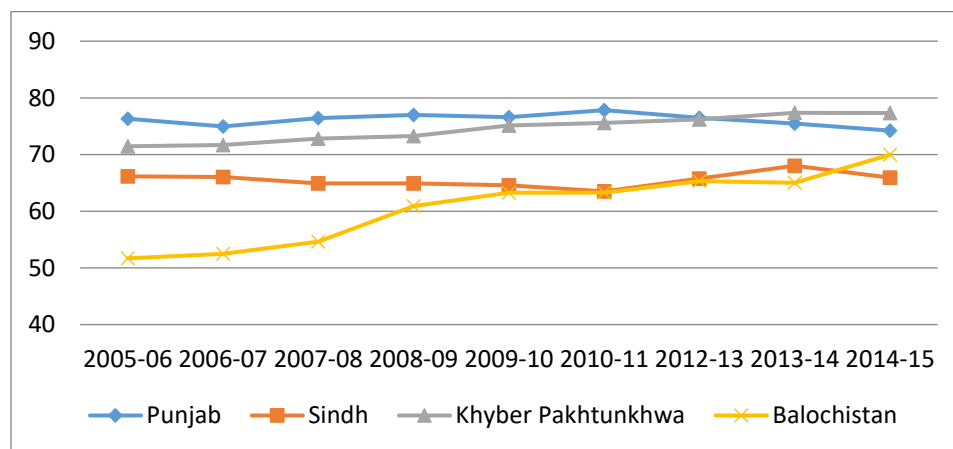
Source: DWCP Pakistan, 2017

Similar to the overall trend in Pakistan, most informal sector workers in Sindh are working as employees in the service, sales and crafts sectors.

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[88] Decent Work Country Profile Pakistan

Table 58. Employed Persons by Occupation Group in Informal Sector in Sindh, 2015-16 (percent)

Occupation	Employed (%)
Managers	2.23
Professionals	2.03
Technicians & Associate Professionals	2.54
Clerical support workers	0.39
Service and sales workers	40.02
Skilled agricultural, forestry and fishery workers	0.01
Craft and related trade workers	24.00
Plant and machine operators & assemblers	10.68
Elementary occupations	18.11

Source: Labour Force Survey, Pakistan Bureau of Statistics, 2014-15

7.1.3 Educational Attainment of the Workforce

A literate labour force normally signifies a more skilled and hence a more productive labour force. This is the case because basic education fosters basic numeracy and literacy skills along with developing cognitive skills.

The adult literacy rate in Pakistan is quite low, although it has increased in the past decades (see Chapter 1 of this report). Though literacy rates have grown in all provinces, the highest levels can be found in the provinces of Sindh and Punjab[89].

Over half of the employed in Sindh have no qualifications, a reflection of the overall low education levels of the province.

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[89] Decent Work Country Profile Pakistan, 2017

Table 59. Distribution of Employed Persons by Level of Education and Sex, 2015-16 (percent)

Level of Education	Employed (%)	
	Male	Female
Illiterate/ No schooling/ Less than Primary	30.26	19.83
Primary	12.16	1.33
Middle	5.04	0.38
Matric	10.57	0.76
Intermediate	6.56	0.70
Bachelors	5.31	0.82
Post-graduates	3.0	0.51
Others	0.18	0.02

Source: HIES, Pakistan Bureau of Statistics, 2015-16

A significant proportion of the workers in Sindh are underemployed, regardless of their level of education. The underemployed are those who work less than 35 hours per week and are available for or seeking alternative or additional work. An active individual is also considered to be underemployed if their level of training is higher than that usually required by the position held. The majority of the underemployed male population in Sindh is either contributing to family work or is working as an employee. The majority of underemployed females are working as employees[90].

The level of education of the underemployed population does not seem to follow a strict pattern. A high proportion (15.79%) of the underemployed male population had a bachelors or postgraduate degree in 2014-15, highlighting that this population has higher qualifications than those required by their jobs. However, underemployment is not limited to this level of education as even a significant percentage of males with matric (10.73%) and pre-matric (17.15%) level education are underemployed. These employees are most likely those that are working less than 35 hours per week.

The majority of the female underemployed population has a bachelors or post-graduate degree. It is clear that females with degree level education are being underutilized, which could discourage higher education for girls.

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[90] Labour Force Survey, 2014-15, Pakistan Bureau of Statistics

Table 60. Underemployed Workers in Sindh by Level of Education, 2014-15 (percent)

Level of Education					
Illiterate	No formal education	Pre-matric	Matric	Intermediate	Degree/Post graduate
38.33	0.67	17.46	12.74	7.61	23.19

Source: Labour Force Survey, Pakistan Bureau of Statistics, 2014-15

However, the unemployment rate provides only a partial picture as Sindh's economy is largely informal and the quality of jobs is low.

In Sindh, the majority of the unemployed population has pre-matric level education, followed by degree-level qualifications. This is mainly because the majority of people in the labour market have pre-matric level education. Unemployment among those with degree-level education highlights the disconnect between the skills acquired via degree-level qualifications and the skills required by the economy.

Table 61. Distribution of Unemployed in Sindh by Education Level, 2014-15 (percent)

Level of Education					
Illiterate	No formal education	Pre-matric	Matric	Intermediate	Degree/Post-graduate
19.28	0.15	30.58	15.50	15.76	18.74

Source: Labour Force Survey, Pakistan Bureau of Statistics, 2014-15

7.1.4 Employment Status by Age Groups

The majority of Sindh's employed population (33.5%) are between the ages of 25 to 39 years. A higher proportion of actives in the 10 to 24 age group (28.1%) are employed compared to those in the 40 to 54 age group (24.3%).

Table 62. Employment in Sindh by Age Group and Sex, 2014-15 (percent)

Age group	Employed		Unemployed	
	Male	Female	Male	Female
10 to 14	3.01	0.91	0.04	0.05
15-24	20.84	3.35	1.23	0.64
25 to 39	25.73	7.79	0.61	0.76
40 to 54	18.91	5.41	0.38	0.20
55 to 65 years and over	7.95	1.54	0.65	0.18

Source: Labour Force Survey, Pakistan Bureau of Statistics, 2014-15

In Pakistan, 38.8% of the population is living below the poverty line, with every one in four individuals living in acute poverty.[91] Children have to resort to work when family circumstances are dire. Out of 40 million children under 14 years of age in Pakistan, approximately 19 million, were a victim of child labour in 2014-15, or 47.5% of the total population under 14 years of age.[92] The figure below shows the provincial child labour rates in Pakistan. While Sindh had the highest child labour rate amongst the provinces, this rate reduced gradually between 2007-2008 and 2014-15. However, a significant number of children are still working to support their families.

Figure 51. Child Labour Rate by Province, 2005-2014 (percent)
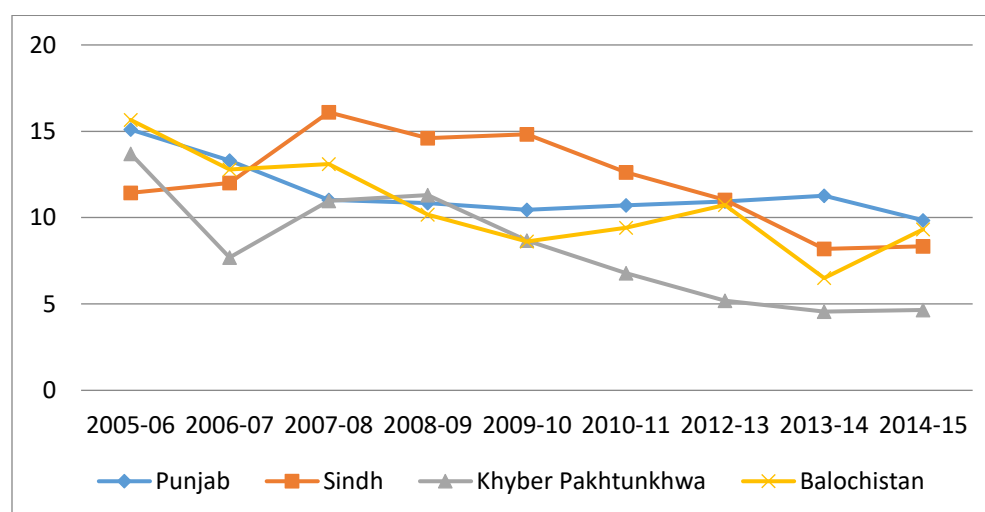
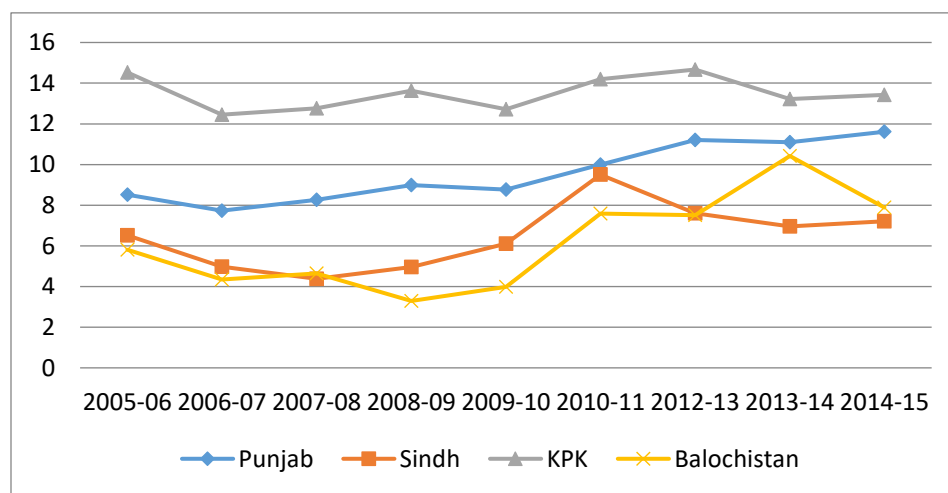Source: DWCP Pakistan, 2017 Note: children 10-14 years old

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[91] Maria Rodriguez, Child Labour in Pakistan, The Bordgen Project, May 2017
[92] Pakistan Bureau of Statistics, Labour Force Survey 2014-15

Analysing youth employment has become an integral concern in the context of the youth bulge. Overall, Pakistan's population is largely comprised of mostly unskilled working age youth who are unprepared for high quality productive jobs.

The youth unemployment rate in Pakistan fell significantly from a high of 13.4% in 2001-02 to a low of 7.5% in 2006-07. However, it started rising again to reach 10.5% in 2012-13[93]. Youth unemployment has been higher in urban areas compared to rural areas with the gap increasing over the years. Sindh registers the lowest youth unemployment rate, compared to the other provinces. Though unemployment among young people increased between 2007-08 and 2010-11, reaching a peak of 9.5%, it slowed down afterwards to its current level of 7.2% (2014-15).

Figure 52. Youth Unemployment Rate by Province, 2005-2014 (percent)

Source: DWCP Pakistan, 2017 Note: 15-24 years old

Figure 55 reveals that almost 60% of youth who enter the job market in Pakistan have below Matric educational qualifications. Many students who drop out before Matric enter the job market immediately, and a very small percentage of youth work and study. This highlights the low educational qualification and skills of the majority of the workforce and explains some of the trends of low wage, underemployment, and informal sector work discussed earlier in this chapter.

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[93] Decent Work Country Profile Pakistan

Figure 53. Education Attainment Level of Youth at the Time of Their First Job in Pakistan, 2017
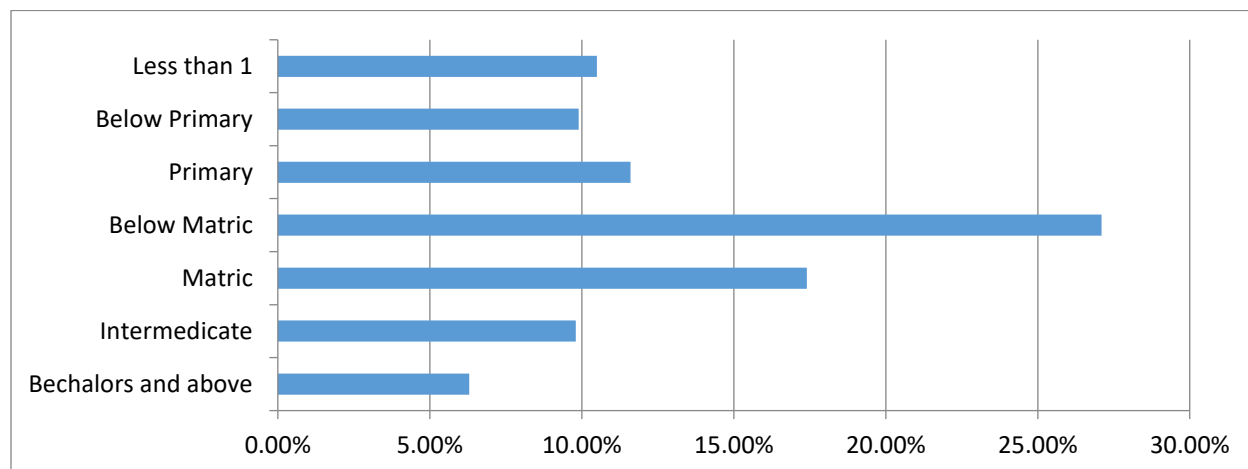
Source: Pakistan National Human Development Report 2017

7.1.5 Labour Force Participation of Women

Female labour force participation in Pakistan is low, and lowest in Sindh among all provinces. Pakistan is at the bottom (144th out of 145th) of the Global Gender Gap Index[94] mainly due to socio cultural barriers surrounding women's education and employment. Sindh's female labour force participation is only 13.5%. Many factors contribute to low female labour force participation, including women's low skills and low participation in education and training, social norms, lack of gender responsive infrastructure and occupational segregation.[95] Another explanation for this low participation rate includes under-reporting of women's activities in official statistics.[96]

Moreover, even if a woman is educated, the decision about labour force participation does not solely depend on her. Focus Group Discussions (FGDs) as part of a recent Sindh Skill Development Project study on Women Employment[97] indicates that a majority of women in all the selected districts say that the decision for women to participate in any income generating activity is taken by the men in the household. Husbands are the decision-makers in the case of married women and the fathers in case of single women living in their parents' home. These findings align with the fact that only a small proportion of women in Sindh who are employed are married (LFS, 2014-2015).

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[94] Global Gender Gap Index is an index designed to measure gender equality.
[95] Exploring Employment Opportunities for Women in Sindh, A Research Study, Sindh Skill Development Project 2018
[96] UNDP 2003
[97] Exploring Employment Opportunities for Women in Sindh, A Research Study, Sindh Skill Development Project 2018

Looking at gender aggregated trends in employment by province, it is important to highlight that the highest percentage of employed females to males is in the Punjab (28.4%, 71.6%), while the lowest percentage of employed females to males is in Sindh (13.8%, 86.2%).[98]

In terms of remuneration, females earn 23% less income than males for similar jobs in Pakistan.[99] As per IMF estimates, minimizing this gender gap in the workforce could boost the GDP of Pakistan by 30%.[100] In Sindh a large proportion of the female workforce is employed in the lowest income bracket, earning below Rs. 5000 (USD 40) per month while only a very small proportion of the male workforce is employed in this income bracket.

Table 63. Distribution of Employees by Income Level and Sex in Sindh, 2014-15 (percent)

Income level (monthly average)	Gender	
	Female (%)	Male (%)
Up to Rs. 5000	35.08	8.34
Rs. 5001 to 10,000	34.41	36.35
Rs. 10,001 to 15,000	8.96	18.69
Rs. 15,001 & over	21.56	36.62

Source: Labour Force Survey, Pakistan Bureau of Statistics, 2014-15

7.1.6 The Economic Value of Education

More educated people tend to earn more and economies with an educated workforce grow at a faster pace depending on the quantity of resources invested in education and on the allocation efficiency of these resources.[101]

Figure 56 shows average monthly income in Sindh by different occupations. Wages earned in these occupations indirectly reflect the worker's level of education as lower level/clerical jobs employ people with low levels of education while professional/managerial jobs go to those with higher levels of education. Following this logic, higher average monthly incomes are earned by those with higher levels of educations and vice versa. In Sindh, the highest earning categories of workers are those for legislators, senior officials and managers (for both men and women), along with professionals in the case of men, and

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[98] Jamal 2015.

[99] Zeenat Hisam, *Gender wage gap*, Dawn, May 26, 2016
https://www.dawn.com/news/1260629

[100] International Monetary Fund, Pakistan – selected issues, Country Report No. 17/213

[101] Qutb (2016)

technicians in the case of women. These are also the categories with the highest increases between 2013 and 2015.

Figure 54. Average Monthly Income by Occupation and Sex in Sindh, 2013 And 2015 (Rs)
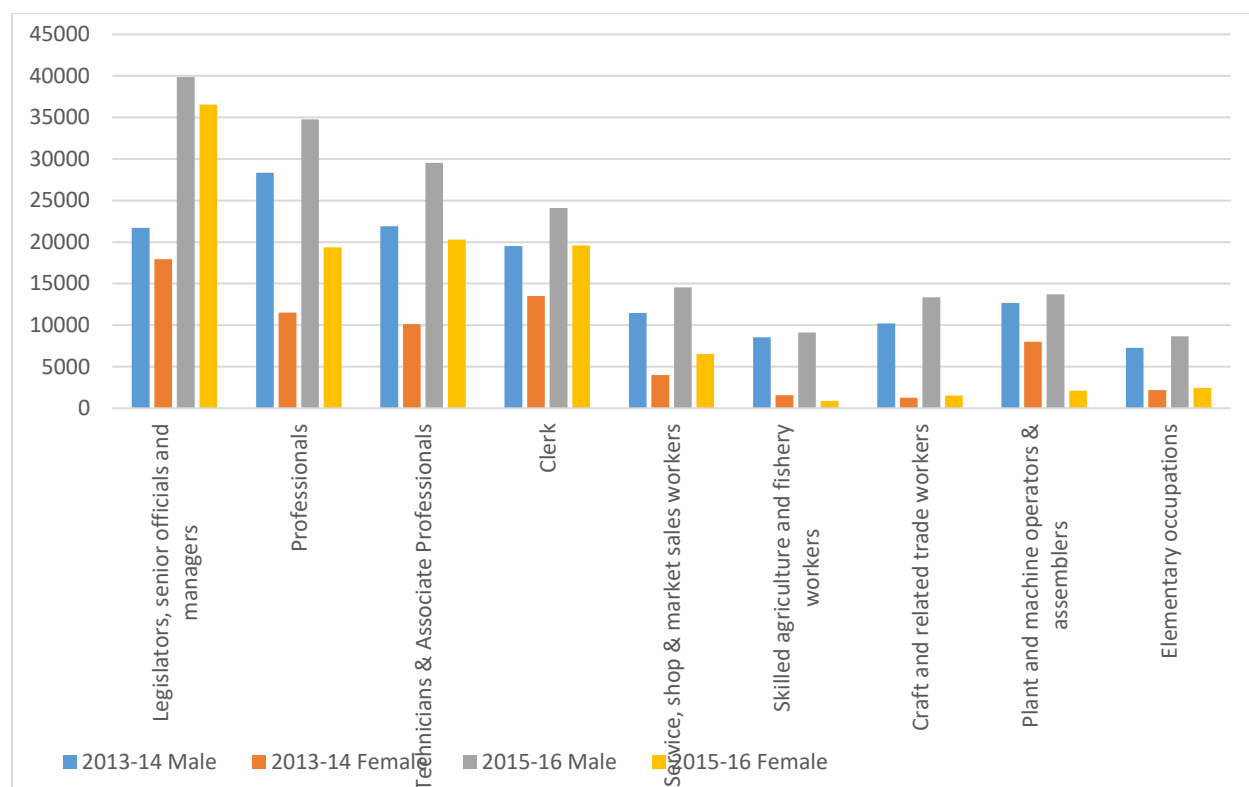
Source: HIES, Pakistan Bureau of Statistics, 2013-14, 2015-16

The composition of wage earners in Pakistan has changed over the last 25 years as the share of those with no education or below primary has fallen from 47.5% to 34.5%. In contrast, the share of employees with tertiary education has increased from 8.8% to 11%.

Table 64. Wage Earners by Education Level in Pakistan, Selected Years 1990-2012 (Percent)

	1990-91	2001-02	2006-07	2012-13
No Schooling	42.5	40.1	33.3	31.2
Below primary	5.0	3.5	3.9	3.3
Primary	12.4	14.0	16.2	16.3
Middle	10.0	11.7	12.5	13.8
Matric	14.7	15.2	16.5	16.7
Intermediate	6.6	6.2	7.4	7.7
Tertiary General	7.3	7.7	8.6	9.6
Tertiary Technical	1.5	1.6	1.6	1.4

Source: Jamal (2015)

Over the years, the average real wage per week has increased in Pakistan. However, an analysis of each level of education reveals that for workers with low levels of educational attainment, average real wage per week has declined, with the exception of workers with no schooling at all. Real wages have increased more significantly for higher levels of education. In particular, workers with tertiary-technical education saw their average weekly wages grow 35% between 1990-91 and 2012-13. This is most likely because the tertiary technical education stream provides technical skill building required by specific industries. Graduates of these technical tertiary institutions normally find employment in the industry directly after training.

Table 65. Average Real Wage per Week by Level of Education in Pakistan, Selected Years 1990-2012 (Rs)

Level of Education	1990-91	2001-2002	2006-07	2012-13	Percentage growth (1990 – 2012)
No Schooling	317	295	309	328	3.5
Below Primary	363	352	333	334	-8.0
Primary	350	332	342	343	-2.0
Middle	381	366	379	366	-3.9
Secondary	419	397	431	433	3.3
Higher secondary	509	468	530	539	5.9
Tertiary – General	816	851	993	862	5.6
Tertiary Technical	966	1072	1199	1304	35.0
Overall	410	392	433	435	6.1

Source: Jamal (2015)

In Pakistan, the private returns of wage earners per additional year of schooling has fluctuated between 5 and 6% between 1991 and 2013.

Figure 55. Private Returns of Wage Earners in Pakistan, 1991-2013 (percent)
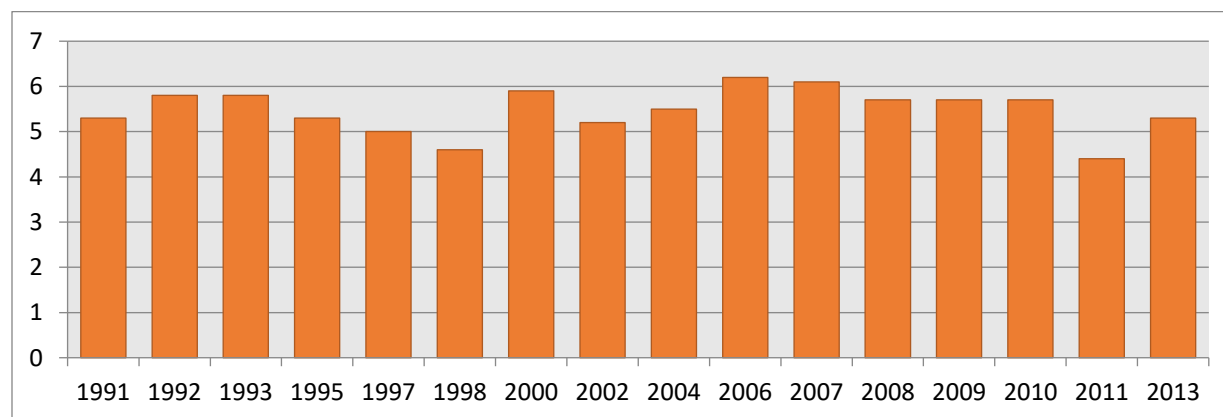
Source: Jamal (2015)

However, there are variations in returns to each additional year of schooling between urban and rural localities. Returns are higher in urban areas. In terms of economic sectors, the highest returns to education among wage earners are in the services sector.

Sindh has the highest return for each additional year of schooling compared to the other provinces.

Figure 56. Private Returns per Additional Year of Schooling in Pakistan, Selected Years (Percent)
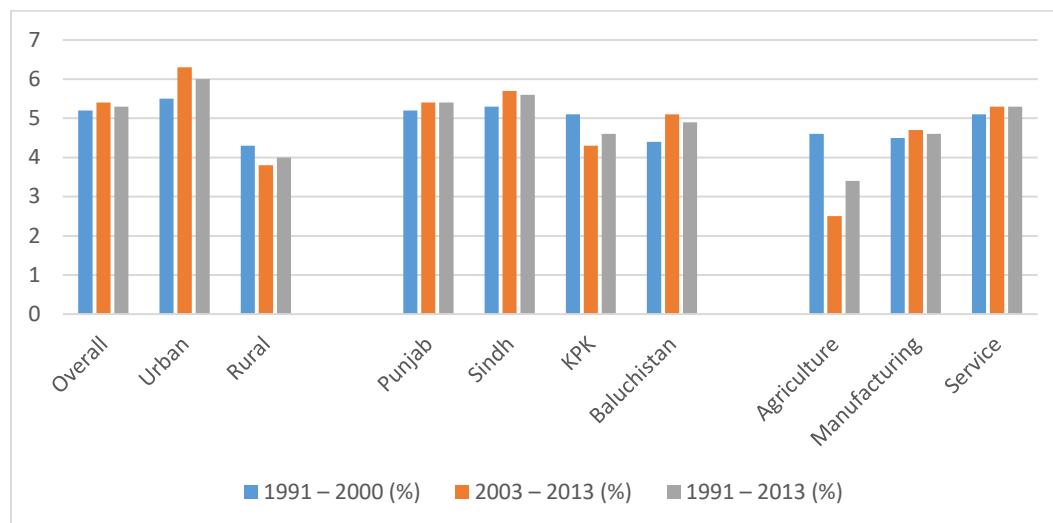
Source: Jamal (2015)

Khan and Toor (2003) found that returns to female education in Pakistan are higher than returns to male education both at the micro and macro levels.[102] These findings are corroborated by the table below. The rate of return for female workers is substantially higher than for males, especially for the period 2003-2013.

Table 66. Private Returns per Additional Year of Schooling in Pakistan by Sex, Selected Years (Percent)

	1991 – 2000	2003 – 2013	1991 – 2013
Male	5.0	5.1	5.1
Female	7.2	7.9	7.7

Source: Jamal (2015)

While Pakistan has experienced economic growth over the last few years, the quality of jobs remains a concern, with high rates of informality and particularly low female labour force participation. Another cause for concern is that youth today face greater labour market challenges despite higher rates of

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[102] Khan and Toor (2003)

education. The difficulties in school-to-work transitions and labour market challenges can be in part explained by inadequate job preparedness because of the poor quality and lack of labour market relevance of education. The labour force tends to lack the relevant skills, including cognitive, technical and socioemotional skills important for any job, such as numeracy and literacy, organization and social interaction and communication skills.[103]

Increased attention to the employability of youth entering the labour market is particularly important because of the **demographic pressure** facing Pakistan. The 'youth bulge' is creating a large pool of young people far in excess of the number of training places or jobs currently available. While city labour markets are not as accessible as village and tehsil markets for the majority of the youth, the role of the city labour market and international labour market in creating a significant number of decent jobs for the poor should not be overlooked. The rapid expansion of such sectors, with a concurrent demand for skilled labour, provides an opportunity to skill-up large numbers of people to fill these gaps. In order for these markets to thrive, regular and reliable labour market information is required to identify skills which are in demand in different locations, and identify the sources from which workers with the appropriate skills can be hired. For example, information on training providers that have tailored their services in line with labour market information and demand. The need for mechanisms that link trainees to the areas of demand also remains strong[104] as currently the linkage between where the trainees are and where the demand is operates in an ad hoc manner based on general perceptions rather than actual labour force data.

7.2 The Social Impact of Education

Education also has positive non-economic externalities, as a factor of change in individuals' social behaviour. These effects can include aspects as diverse as health, reproductive behaviour, high-risk behaviour, or civic attitudes. The different effects can be evaluated at the household level according to four key dimensions: (i) the promotion of health; (ii) the control of fertility; (iii) civic commitment; and (vi) living conditions. Changing social norms surrounding girls' education and participation in the labour force also fall under these dimensions.

7.2.1 Education and Health Conditions of Children

In Sindh, data shows that as the mother's education increases from primary to higher, infant mortality and under-5 mortality rates decrease. As literacy levels and general education improves more mothers accept to vaccinate their children. For instance, immunization rates for BCG, which prevents tuberculosis, in Sindh increase as the mother's education increases from primary to higher. These indicators are very strong signs of the impact of the mother's education on the health of children in Sindh. In and of themselves they should be enough to make a case for female education at the family and community level.

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[103] DFID Market Review, 2014
[104] DFID Market Review, 2014

Table 67. Child Mortality Rates and BCG Immunization Rate, 2014

| Mother's education	Infant mortality rate	Under 5 mortality rate	BCG Immunization
None/pre-school	106	139	69.3
Primary	83	105	82.9
Middle	51	61	88.6
Secondary	51	61	88.2
Higher secondary	34	39	93.7
Higher	35	40	90.8

Source: MICS, Sindh Bureau of Statistics, 2014 Notes: Child mortality rates are per 100,000 live births. BCG immunization rate is the proportion of immunized children

7.2.2 Education and Fertility

Pakistan has difficulty controlling demographic growth due to high fertility rates. The role of education in the process of controlling demographic growth is widely recognized. Education is an important determinant of family-size preference and fertility. Factors that are responsible for high fertility rates are low educational attainment, lack of knowledge about contraceptive use, poverty, preference for sons and low status for females in society.[105] Due to awareness raising and increased schooling, the total fertility rate in Pakistan declined to 3.55 births per woman in 2015[106] from 5.44 births per woman in 1992.

Figure 59 below shows trends of female fertility rate in Pakistan by province.

Figure 57. Fertility rate in Pakistan by Province, Selected Years 1998-2011 (children per woman)
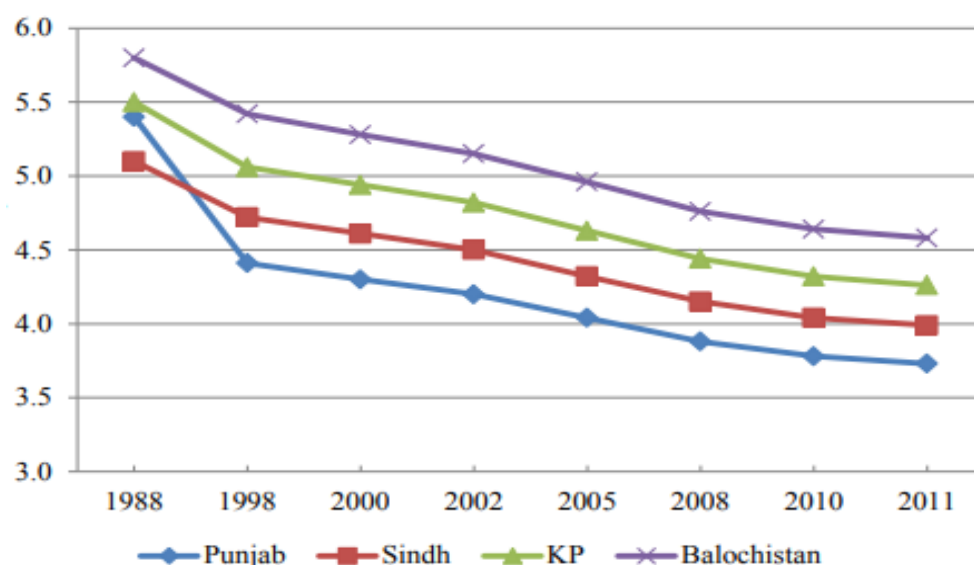
Source: Pakistan Bureau of Statistics. Note: latest data available

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[105] Sathar A. (1984)
[106] The World Bank, World Development Indicators (2015)

The fertility rate declined between 1988 and 2011 in all provinces. However, it is important to note here that despite these declining fertility rates they are still amongst the highest in the world.

Sindh has the second lowest fertility rate in Pakistan. As the mother's education in the province increases from primary to higher, the fertility rate decreases. Lower fertility rates may lead to improved maternal health, higher female labour force participation and improved household circumstances.

Table 68. Fertility Rate in Sindh by Level of Education of Women, 2014

Women's education	Total fertility rate
None/pre-school	5.0
Primary	4.2
Middle	3.5
Secondary	3.0
Higher secondary	2.8
Higher	2.1

Source: MICS, Sindh Bureau of Statistics, 2014. Note: number of children per woman

7.2.3 Education and Living Conditions

Water and sanitation facilities in households improve living conditions substantially and lead to better health outcomes. Data shows that use of these facilities increases with higher levels of education. For example, in Sindh the percentage of households using boiled water for drinking and piped sewer systems for sanitation purposes increase with the education level of the head of household.

Table 69. Household Water Treatment and Sanitation Facilities by Level of Education of the Household Head in Sindh, 2014 (Percent)

Head of household's education	Water treated by boiling	Piped sewer system
None/pre-school	6.7	43.1
Primary	8.3	47.6
Middle	16.7	71.6
Secondary	21.6	73.9
Higher secondary	21.7	70.0
Higher	25.4	84.7

Source: MICS, Sindh Bureau of Statistics, 2014

7.2.4 Education and Attitudes towards Domestic Violence

Attitudes towards domestic violence change substantially as female education levels increase. With each increasing level of education women are less and less likely to believe their husbands are justified in engaging in domestic violence. Table 72 shows that the percentage of women who believe domestic

violence is not justified is 54.1% among illiterate women and only 6.3% among women who reached degree level education.

Table 70. Attitudes towards Domestic Violence by Level of Education of Women in Sindh, 2014

Women's education	Women 15-49 years who believe a husband is justified in beating his wife (%)
None/pre-school	54.1
Primary	38.6
Middle	21.8
Secondary	14
Higher secondary	10.4
Higher	6.3

Source: MICS, Sindh Bureau of Statistics, 2014

7.2.5 Education and Level of Interest in Public Affairs

Women's interest in public affairs and consumption of news increases as their education level improves. The following table shows that as a woman's educational qualification improves her chances of reading a newspaper. A woman who reads a newspaper once a week is likely to be aware of basic information, news, announcements and events in her immediate locality and at the provincial and national level.

Table 71. Exposure to Mass Media by Level of Education of Women in Sindh, 2014

Women's education	Women 15-49 years who read a newspaper at least once a week (%)
None/pre-school	0.6
Primary	12.3
Middle	21.2
Secondary	26.3
Higher secondary	33.7
Higher	47.0

Source: MICS, Sindh Bureau of Statistics, 2014

Conclusions

A situational analysis of the school education sector in Sindh (ESA) has been undertaken to form the basis for the development of an Education Sector Plan for 2019 to 2023. The results presented in the ESA raise concerns as education in Sindh continues to be in need of serious attention. There are major gaps in all aspects of delivery: access, quality and equity.

Sindh is the second largest province in Pakistan, with a population of more than 47 million inhabitants. While the country as a whole is expecting demographic dividend, where economy growth exceeds population growth, Sindh's fast population growth continues to pose a challenge on human capital development. Despite an improvement over time, literacy rates in the province are low, particularly for women, and child health indicators are very poor especially in rural areas.

Access to early childhood education improved in Sindh, but the access to primary education continues to be a challenge. Gender imbalances in access to education are prevalent in the province and particularly in rural areas. With the exception of urban female at middle school level, female students have lower enrolment rates than their male peers at all levels of education. Sindh has a large out-of-school population, which seems to have increased over time from 1.87 million (39.9%) in 2007-08, to 2.57 million (42.1%) in 2013-14 although accurate population census and projections are not yet available. Girls are more likely to never enter primary school (63%) than boys (54%). Poverty is a significant barrier to education for OOSC. Some 50.1% children from poorest households are out of school, compared with 11.2% from wealthiest households.

Students' dropout are observed as they progress from primary, to middle, to secondary levels of education. Factors contributing to dropout include low economic status of parents, involvement in household chores, perceived low returns of education (especially for girls), and engagement in economic activities. Other factors are associated with supply-side issues. Multi-grade teaching is prevalent with almost 89% of primary schools have two classrooms or less and more than 65% have two teachers or less. School availability beyond primary is limited with only 13% of schools in Sindh are middle and 12% are secondary whereas the bulk of schools (74%) are primary.

The level of educational achievement in Sindh is overall low with persisting concerns about the quality of education. Student learning outcomes, tested through various assessments across grades, are poor. Teaching in the classroom mostly uses the rote memory approach, reducing the opportunity for higher order thinking to develop among children. The curriculum implementation framework (CIF) has not been operationalized to a full extent, and there is no feedback on the curriculum's effectiveness and relevance. A teacher-centred approach to teaching and learning is prevalent and students are typically passive actors in the classroom.

A major improvement has been made in the pre-service training system in Sindh. However, quality remains low, as pre-service institutions have failed to upgrade their capacity to meet the requirements of these new courses. Continuous professional development (CPD) scheme has been developed and in the pipeline for implementation. Many of the teachers appear to lack knowledge of basics of teaching - comprehension of curriculum, taxonomies, and assessments. Formative and summative assessments are a regular feature in schools, but there is no evidence on their quality or use in improvement of the teaching learning process.

In the area of governance, important measures have been taken to reduce political interference in education, such as merit-based teacher recruitment and monitoring of teachers' presence in schools. However, political interference in postings and transfers of teachers continues. Reform efforts will have to address and respond to such challenges. Moreover, routine administrative matters leave little time for district officers to focus on school improvements. The technical capacity of organizations responsible for development of quality products like curriculum, textbooks, assessments and teacher training will need to be built. Products like curriculum, textbooks, assessments and teacher training require specialized knowledge and continuous professional development. There is a shortage of qualified human resource in all quality-related organizations of the education sector in Sindh, and technical units need to be strengthened.

Established in 2016, the Directorate General of Monitoring and Evaluation (DG M&E) has made considerable progress against teacher absenteeism, pushing a number of absentee teachers to seek early retirement. Yet, a more strategic approach to planning, including M&E, is needed that looks at the entire value chain of education from curriculum to student learning outcomes. There is no unit within SELD that has the mandate of strategic planning, which would encompass not only the usual planning of infrastructure, teachers and learning materials, but also management of information systems, M&E, and policy analysis. The education management information system needs to be updated to adapt to the needs of planning and M&E.

Private school presence is large and public-private partnership provides important opportunities. Although government schools continue to be the main form of schooling at primary level, private schooling is widespread. In Sindh as a whole, 33% of boys and 40% of girls are enrolled in primary schools that are not managed by the public sector (excluding Katchi classes). This rate is even higher in urban areas. Private school presence in such large numbers invoke two policy options: i) regulation of private schools; ii) using interest and capacity of the private sector to expand education outreach.

Public financing of education in Sindh has increased since 2011, reaching Rs 191 billion in 2017-18. In terms of the total budget of the government of Sindh, the share of public resources allocated to education grew from 13.4% in 2011, to 18.5% in 2017. However, spending rates have not improved significantly. This is particularly the case for the development and non-salary budgets. The SESP 2014-2018 identified low utilisation rates of the education budget as one of the major challenges for the sector, although this is a pervasive problem throughout the public sector in the province. Various types of inefficiencies are observed in the allocation of resources. Expenditures tend to favour urban, relatively wealthier districts. Further, there is no apparent relationship between expenditures and learning outcomes at district level.

Lack of detailed data and information was a constraint for this ESA. In the absence of disaggregated information of the latest population census, vital demographic details are not available, and key information like out-of-school children is an estimate. Vital information like private sector share in schools, enrolment and other educational indicators have not been collected for over a decade. The data on survival rates, teacher qualifications and facilities (among others) is limited to government-run schools. The biggest gap is in research on quality of teaching and learning, though this ESA includes original field research in a sample of schools in Sindh. It is imperative that data and knowledge environment improves for more accurate and up to date analysis for the relevant policy decisions.

Annex 1: Continuous Professional Development Model by STEDA

During the last five years STEDA has developed standards for teacher education and a continuous professional development model. The Authority is also trying to develop a licensing system to standardize teacher quality.

STEDA's model, the CBMP, purports to improve the professional capabilities of public school teachers in Sindh. It requires all primary and elementary school teachers to attend the professional development activities every year (STEDA 2017, p.4).

Figure 58. The CPD Model for Sindh
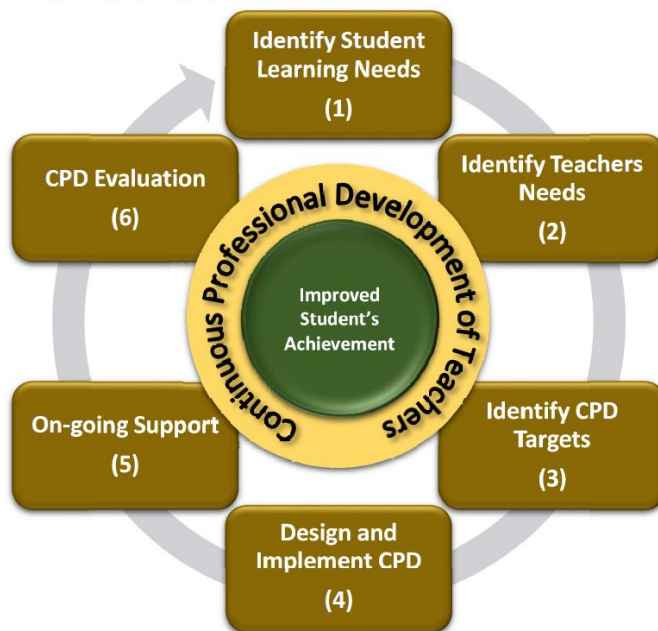
Source: STEDA (2017, p.9)

The CPD model comprises six steps, explained below.

STEP 01 – Identify Student Learning Needs: Identification of student learning needs by using reports of large-scale assessments based on provincial/national curriculum standards for all classes (e.g. Provincial Education Assessment Centre and Standardized Achievement Test reports), and data gathered from CPD programmatic activities (e.g. quarterly student assessment, students work samples, and Subject Coordinator observations).

STEP 02 – Identify Teacher Needs: Identification of teacher professional development needs using the National Professional Standards for Teachers in Pakistan (NPSTP) and results of studies conducted with particular reference to elementary school teachers' performance in Sindh, and classroom assessment and CPD programmatic activities.

STEP 03 – Identify CPD Targets: Identification of CPD interventions that are aligned with targeted areas that emerge from data gathered under steps 1 and 2.

STEP 04 – Design and Implement CPD: Design and development of CPD activities/materials, that should be accredited by STEDA before implementation.

STEP 05 – Ongoing Support: Engagement of DETRCs, REECs, TRCs, In-service TEIs (and where necessary GCEs and GECEs also), DEOs for training, mentoring and monitoring at Taluka, Cluster and School levels.

STEP 06 – CPD Evaluation: Evaluation of the CPD programmes to be carried out by the implementing institution/agency, or by other institutions including public and private organizations and authorities.

The School Education and Literacy Department categorizes professional development for elementary school teachers in four types:

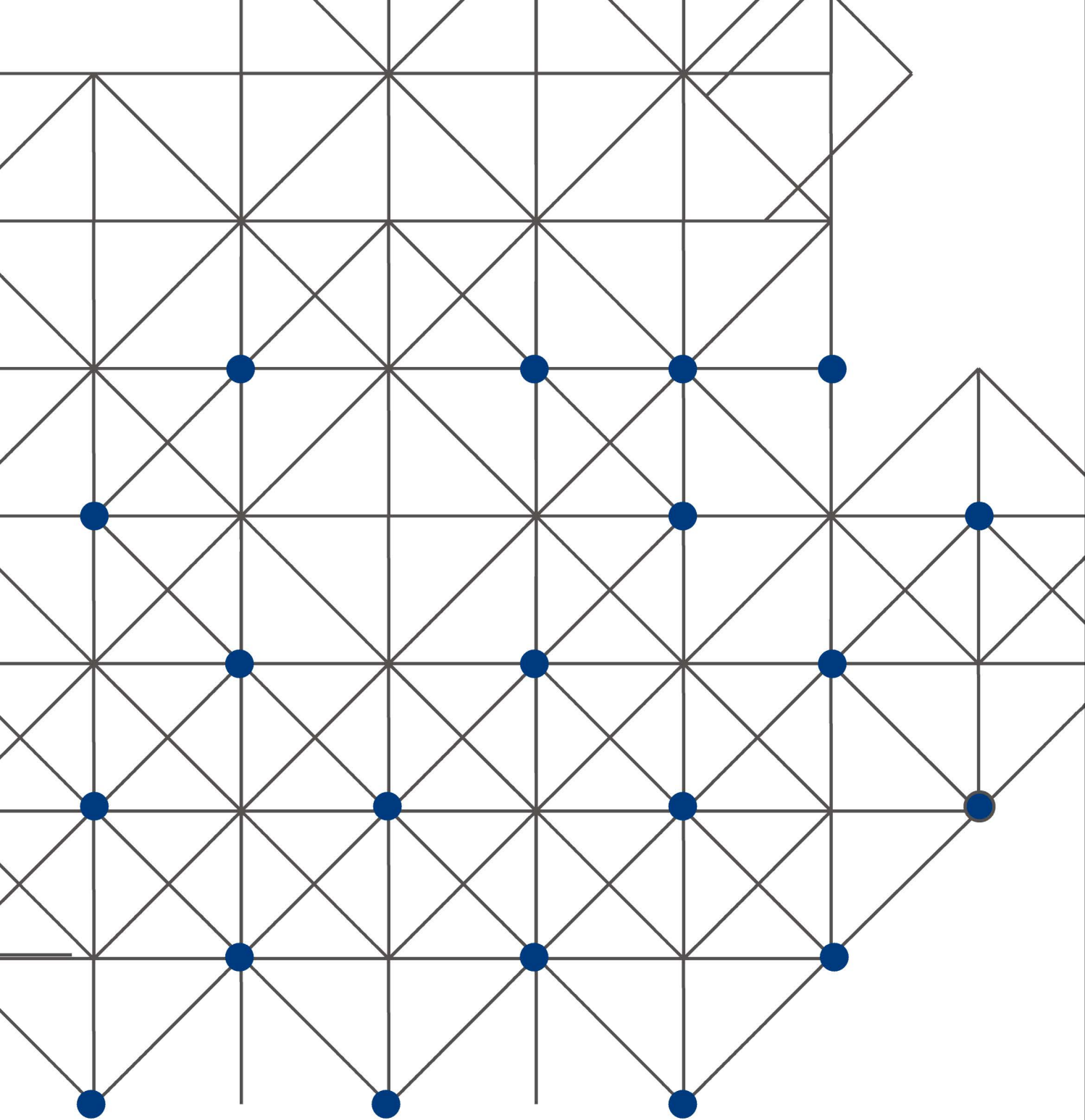A. *Compulsory education and training – the CPD*
- Professional development to meet National Professional Standards for Teachers and School Curriculum Standards
- Training in recurring issues such as multi-grade teaching in schools with single, two or even three teachers
- Training in emerging issues to address these situations through various means including student counselling and parental education

B. *Mandatory education and training*
- Induction trainings to familiarize teachers with the School Education and Literacy Department, understand their roles and responsibilities, and get ready to perform these roles; this training is linked to promotion

C. *Academic and/or professional progression*
- Professional study such as formal degree or certificate programmes linked to career progression, to encourage existing staff to enhance their qualifications .