Chapter 6.2

Education

6.2.0 Introduction

Punjab is home to 110 million people (53 percent of Pakistan's population) and over 22 million children aged 5 to 16 years (Pakistan Bureau of Statistics), making investments to improve provision of education and skills pivotal to Pakistan's overall economic growth. With 52,000 schools, 338,000 teachers and 10.8 million students (Punjab Development Statistics, 2017), Punjab is home to one of the world's biggest public education systems. Its performance in the education sector is critical for achieving the targets set under the Sustainable Development Goals (SDGs) and for meeting the country's international and local commitments to education. Pakistan cannot hope to end its education emergency without a substantial and sustained increase in both access to and quality of education received by children of Punjab.

Despite realizing the centrality of Punjab's education sector to help Pakistan achieve its education goals, efforts to reform education over the past decade have remained inadequate. Punjab has got the highest number of out-of-school children and the highest number of children with low learning levels. Around one fourth of primary school age children remain out of school in Punjab. While the quality of education delivered through its public-school system is better than in other provinces, it is still substantially below international standards. Net attendance rates are considerably lower than the Gross Attendance Rates with a significant number of overage children in each level of education. Punjab has also failed to achieve the MDG target of achieving universal primary education by 2015.

Disparities across gender and geographical location persist. Often girls remain markedly disadvantaged as do the poorest children and those with disabilities. Southern districts have considerably lower (40 percent or lower) net primary enrolment ratios than northern districts. Overall education deficits are much higher in South Punjab where most high poverty districts[1] are located. Hence, the scope of existing challenges remains vast.

The government of Punjab has, however, expressed its commitment to meeting the SDGs, and has adopted a comprehensive education sector reform roadmap to consistently monitor progress against key indicators. The success of Punjab Government's policies to improve service delivery for education is critical for converting a rapidly growing population into a gainfully employed workforce that can help the country reap demographic dividends. Failure to do so may lead to increased risk of conflict, violence and unrest in the future.

6.2.1 Education Wellbeing Index

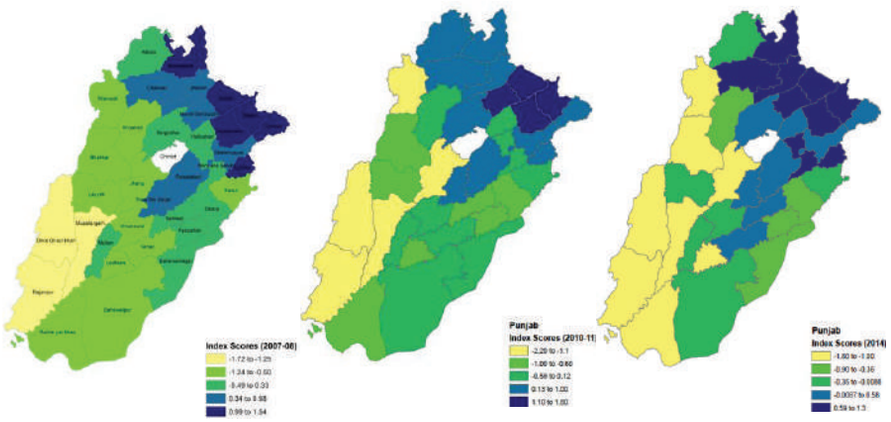
The Education Wellbeing Index (EWI) uses data from three rounds of MICS to provide a snapshot of the progress in Punjab's education sector. The education index uses two indicators - literacy rate 15-24 years[2] and the Gender Parity Index that measures the proportion of girls in middle/secondary education. It converts each of these values into a score and then combines them together to rank the districts.

The progress across districts is mixed. While there are more of the darker regions, representing highest ranking, in 2014, some of the districts especially in the south are now performing much worse. There are also districts in the south west region that are doing worse with time. Hence the progress is mixed. This north south disparity will appear throughout this report and is a good way to breakdown the overall progress in Punjab.

[1]CERP-PEOP Baseline Household Survey

[2]that measures the number of household members age 15-24 years where it is reported that they are able to both read & write with understanding in any language excluding Quranic reading, if this was the only response.

Figure 1: Education wellbeing Index (2007-08 2010-11 2014)



Source: MICS

6.2.2 Policy environment / Framework Strategy

6.2.2.1 Punjab Growth Strategy 2018

The strategy clearly states that education policies need to prioritize an all-inclusive growth focused on improving access to quality education for all. It highlights the following areas for reform and investment:

- Enhancing demand for primary education
- Harnessing strength of the private sector for education
- Improving quality of primary and lower secondary education
- Decentralising alongside provincial government
- Improving transition to secondary education

The strategy sets the targets till 2018, but is an evolving document, that will be updated every five years.

6.2.2.2 Education SDGs

Education remained one of the core unfinished businesses[3] of the MDGs. Failing to meet the MDG goal of universal primary education by 2015, Pakistan has now embraced the new sustainable development agenda that stresses parallel improvements in both quantity and quality indicators for education of the youth. Education is a key priority of the post-2015 agenda under SDGs.

The sustainable development agenda views education as a cross cutting capability under several of the proposed 17 SDGs. The agenda prioritizes equitable quality education while promoting lifelong learning opportunities for all. Education targets under SDGs (particularly goal 4) are thus anchored in both learning and access aimed at addressing inequality.

SDG 4 contains seven targets and three ways of implementation, covering all levels of education; from early childhood, primary to secondary, technical vocational for decent jobs, and university through formal, non-formal and technology enabled channels and relies on conducive learning environments, adequacy of trained teachers and opportunities for scholarships to pursue continuous learning.

The emphasis on gender equity in primary education (previously part of MDG 3) has been expanded under SDG 4 to

[3]http://data.org.pk/blog/on-the-post-2015-education-agenda (SDPI)

all levels of education, stressing not only gender equality but also parity in numbers.

The SDG timelines seek to meet the targets by 2030.

6.2.2.3 Punjab School Education Sector Plan (PESP) 2013-18

The development of PSESP has been guided by multiple government policies and reforms that include the National Education Policy 2009, MDGs, Punjab Education Sector Reforms Program, Article 25-A (18th Constitutional Amendment) and the Chief Minister's School Reforms Road Map. It focuses on the differing roles of various service delivery modes – public, private etc. and on balancing quality, relevance, access, equity and governance. The education sector plans for Punjab expires this year and is expected to be replaced by a new one.

6.2.2.4 Education School Roadmap

The development of PSESP has been guided by multiple government policies and reforms that include the National Education Policy 2009, MDGs, Punjab Education Sector Reforms Program, Article 25-A (18th Constitutional Amendment) and the Chief Minister's School Reforms Road Map. It focuses on the differing roles of various service delivery modes – public, private etc. and on balancing quality, relevance, access, equity and governance. The education sector plans for Punjab expires this year and is expected to be replaced by a new one.

Table 1: Areas and Goals for 2018 as Under the Punjab's School Roadmap`

AREAS	GOALS FOR 2018
ENROLMENT AND ACCESS	95% Minimum participation rate for 5-9 year olds
TEACHING QUALITY	75% Score on Six-Monthly Assessment
SCHOOLS AND TEACHERS	36k new schools, 46k new teachers, 100% functioning facilities in schools
PUBLIC PRIVATE COOPERATION	2.6 million students enrolled in Punjab Education Foundation schools by 2018

Source: SMU

Education roadmap goals are classified into four broad areas with clear goals for impact in 2018. It sets ambitious goals for 2018, focusing on learning outcomes while continuing to push for access for out-of-school children.

6.2.2.5 Punjab Education Sector Program (PESP)

PESP II runs from 2013 to 2019. Its intended impact is to produce more educated people in Punjab that can make positive social and economic contributions for Pakistan. It has a keen focus on improving retention and learning outcomes. The programme adopts a 'whole system reform' approach; focusing simultaneously on strengthening government systems, building institutions, and improving access, quality and management of the education system. PESP II is closely aligned to the Roadmap process and is one of DFID's largest education sector investments globally. Currently planning for PESP III is underway, with plans to conduct an extensive evaluation of PESP II.

6.2.3 Regulating Punjab's Education Sector

6.2.3.1 Education after the 18th Amendment

The Federal Ministry of Education was devolved in 2010, following the 18th amendment, making education a provincial subject. However, planning, policy and standard setting for education beyond Grade 12 remains with the federal government. The Punjab Higher Education Commission (PHEC) was established in 2014, to look over matters of higher education in the province.

Two significant changes in the education governance framework following devolution are: a) the curriculum has become a provincial responsibility b) free and compulsory education for children between 5 and 16 years has been added to the list of fundamental rights.

Article 25-A of the constitution clearly reinforces the government's responsibility towards ensuring provision of

[4]Article 25-A mandates the provincial government to provide free and compulsory education to all children between 5-16 years of age The State shall provide free and compulsory education to all children of the age of five to 16 years in such a manner as may be determined by law.

education as a basic right.4 Provinces have been slow to respond with necessary laws and mechanisms for enforcing the right to education. Punjab passed the Punjab Free and Compulsory Education Act in 2014, four years post devolution. However, no rules of business, to determine implementation of this act, have yet been formulated.

6.2.3.2 Education Delivery under Local Governments

As it stands, the local government system is facing quite a few challenges such as capacity constraints, difficulty in monitoring and auditing, lack of community participation and negligible reliance on domestic resource mobilization. However, the government has taken steps to address these issues, it has focused on the development of district authorities for the provision of education that will be responsible for the planning, execution and monitoring of all development schemes in all educational institutions working under the respective authority.

The 18th amendment not only promised devolution to provinces but further down to local governments. Under the new Punjab Local Government Act (2013), Punjab has regained control of 11 out of the 13 departments previously devolved to the district level. Remaining two functions that include education and health will indirectly be run by the provincial government through its proxies; District Education and Health Authorities. District Education Authorities (DEAs) will now be the 'executing agencies of local councils'[5] (See box below).

Following the successful round local government elections in Punjab in 2016, the province has, as per, the Act appointed acting chief executive officers (CEO) and secondary education directors for the newly established DEAs across nine divisions of Punjab. DEAs have now been established across all 36 districts of Punjab but are yet to get powers to begin functioning. The CEOs Education have also been appointed but are awaiting rules of business to eventually empower them.

Box: District Education Authorities

A District Education Authority will be established in each district. Each authority will consist of members elected by the District Councils from amongst their peers. Each authority is also supposed to have technocrat members with specialist knowledge who will be appointed by the government and not by members of the District Council. The Chairman and Vice Chairman of an authority will also be appointed by the government. Again, the government puts these authorities under close scrutiny and reserves the right to take action against any of its members or officials on account of misconduct.

The District Education Authorities will each have a Chief Executive Officer (CEO) who will be appointed through open competition. The CEO will also be the Principal Accounting Officer of the authority. The broad functions of the education authority include: (a) Establishing and supervising educational facilities at all levels, including in areas like non-formal basic education, adult literacy and special education (b) Policy implementation (c) Ensuring quality education through quality controls (d) Assessment of schools and promotion of co-curricular activities (e) Planning and resource mobilization.

The accounts of the District Education Authority will be maintained by the Accountant General and District Accounts Officer. These two officials can also pre-audit payments from the local funds of these authorities.

Source: AAWAZ Program 2016. Local Governments in KP and Punjab – Framework, Current Status, and Challenges

6.2.3.3 Resource Allocations under Local Governments

An interim Punjab Provincial Finance Commission (PFC) Award has been billed to drive up funding for the recently inaugurated local union councils, district councils and metropolitan corporations / municipal committees to ensure local

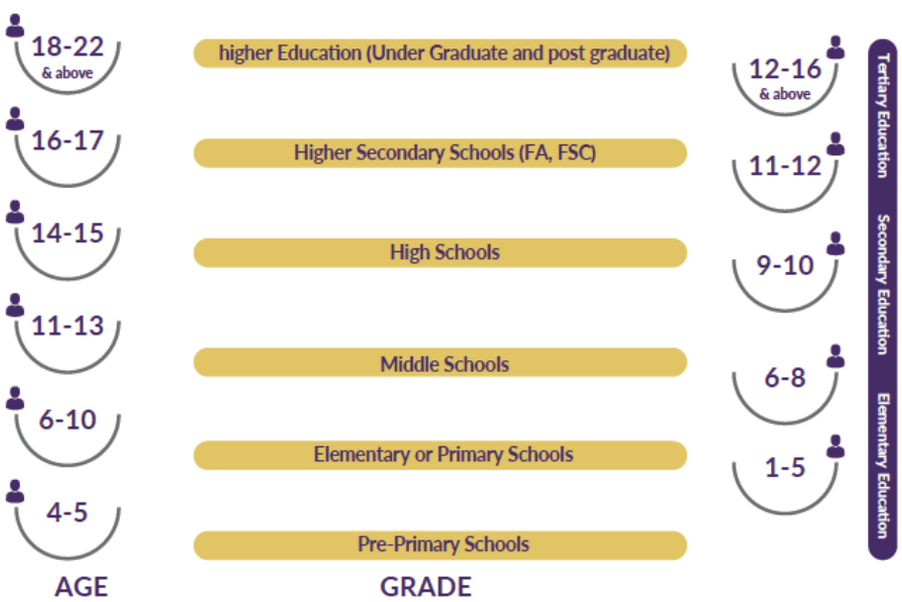
[5] Punjab Local Government Act, 2013; available at: http://punjablaws.gov.pk/laws/2542.html

service delivery. The PFC award establishes three types of grants with 82 percent of the resources set aside for 'general purpose grant', 11 percent for 'development grant' and 7 percent for 'transition grant'. However, the bulk of the funds, close to 83 percent, have been allocated for DEAs and DHAs.[6] To be exact, DEAs will receive 66.9 percent of these funds. Horizontal distribution of funds across DEAs is determined in part by population (75 percent weight as opposed to 91 percent in 2006) and other factors such as population density, poverty, school going-age population, girls' middle school enrolment and out of school children. This will ensure that southern districts have more resources to improve education.

6.2.4 Structure of Education

In general, formal schooling can be divided into several stages. The divisions in Pakistan and also applicable to Punjab as shown in the figure below.

Figure 2: Structure of Education Sector (Pre-primary and Higher Secondary Level)



Source: Punjab Gender Report, 2016

- Pre-primary (kachi) is the first stage at which children in Pakistan enter school and is an important component of early childhood education (ECE). Typically, children are 3–4 years old. The official pre-primary enrolment age is four years.

- Primary education is for students aged 5–9 years and covers Grades 1–5. Children spend five years developing basic competencies.

- Middle school (also known as lower secondary) is for children aged 10–12 years and covers the three years from Grades 6 to 8. This stage prepares them to enter upper secondary and post-secondary levels of education.

- High school (also known as upper secondary) covers Grades 9 and 10, the final two years of basic education for children aged 13–14 years. It is the first important career deciding level where students can opt for either science or arts groups. At the end of this stage, students appear for their school-leaving examinations. The terminal examinations at the end of each of the two Secondary grades are conducted externally and form an important landmark for future options for the child.

- Higher Secondary (also known as Intermediate schooling) covers Grades 11 and 12, and prepares students for tertiary education. Grades 11 and 12 are part of high schools as well as a number of graduate colleges. The latter fall in the jurisdiction of the Higher Education Department and not the School Education Department. These grades provide the second important career direction as children opt for pre-engineering or pre-medical groups (or other specialized groups), making them eligible for degrees in engineering or medicine, respectively.

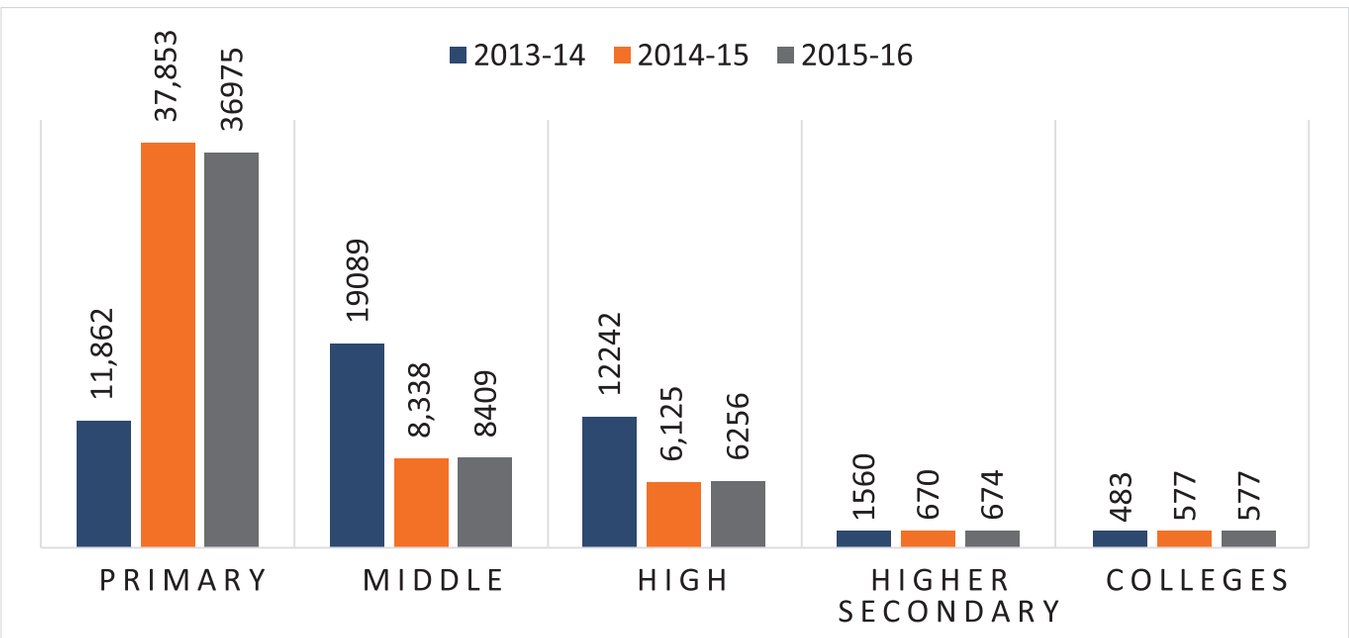
[6] https://www.punjab.gov.pk/node/2167

6.2.4.1 Formal Education

School Education

School education comes under the purview of the School Education Department (SED). Punjab has a high number of primary compared to middle, secondary and higher secondary schools with numbers declining steeply as one moves to higher levels (figure below):

Figure 3: Public Schools in Punjab



Source: Pakistan Education Statistics

Higher Education

The higher education sector consists of colleges managed by the provincial Higher Education Department (HED) and autonomous universities. The colleges under the administrative control of the HED normally run undergraduate classes but many also offer postgraduate courses. PHEC is assigned the task to coordinate with the Higher Education Commission (HEC) and provide oversight for higher education in Punjab, related to matters of setting standards and promoting research and development.

Technical and Skills Training

Technical and vocational education institutions in the public sector are managed by the Punjab Technical Education and Vocational Training Authority (PTEVTA). The Authority is an autonomous body running over 350 TVET institutions across Punjab. The total number of Technical and Vocational Institutes in Punjab is 394, of which 44 percent are for female students. The number of enrolled students increased from 159,065 in 2014-15 to 170,630 in 2015-16. Of the 3,772 teachers, only 24 percent are female.

Special Education

The Department for Special Education was established in 2003. It is providing many facilities but with limited education provision.[7] Earlier, it existed as the Directorate of Special Education within SED. The Department has the mandate to formulate policies for special education including curriculum development. It administers 292 special education centres in 18 districts across Punjab. At its inception, coverage included 51 schools reaching out to 4,265 children, increasing to 248 institutions across the province catering to 31712 students with disabilities by 2016.

Punjab Education Foundation

The Punjab Education Foundation (PEF) was restructured as an autonomous organization of the Government of Punjab in 2004 to support the efforts of the private sector in providing quality education to marginalized communities. PEF is responsible for promoting education by establishing Public-Private Partnerships (PPPs) and runs the following programs: a) Foundation Assisted Schools (FAS) b) Education Voucher Scheme (EVS) c) Public School Support Program (PSSP)

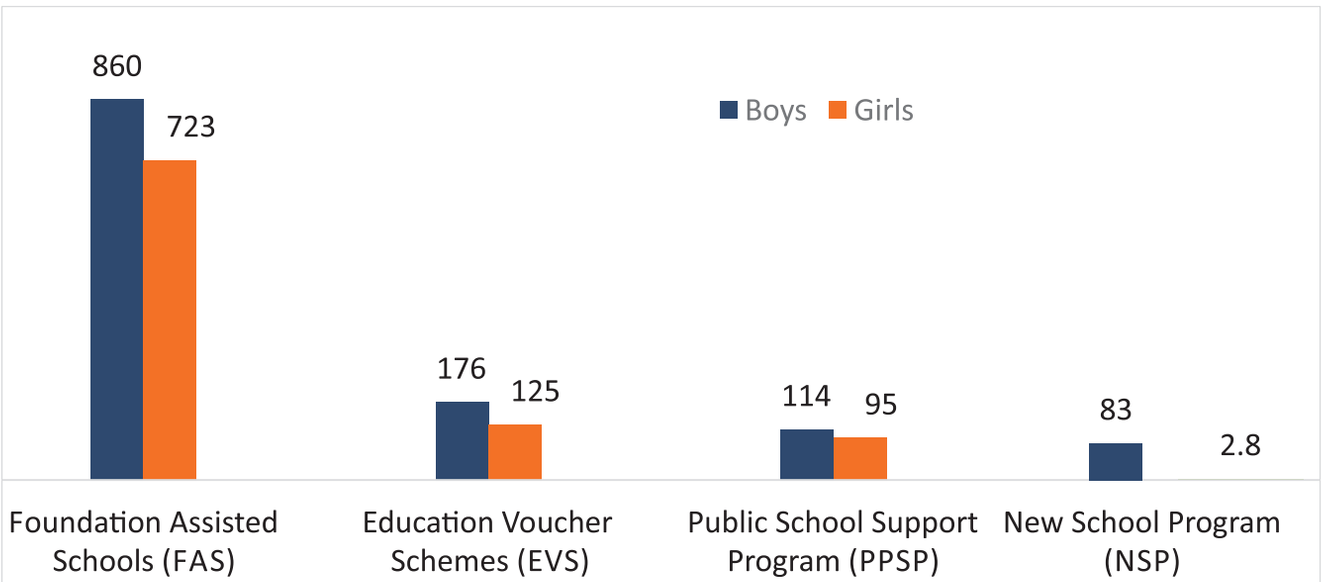
[7]http://educationcommission.org/voices/learns-not-examining-choices-including-excluded/

and d) New School Program (NSP). Around 2,242,697 students are enrolled under PEF, of which 45 percent are girls.

Punjab Examination Commission (PEC)

PEC, an autonomous body, has been set up in Punjab in 2005 to conduct annual exams for Grade 5 and Grade 8 students in Punjab. These grades are crucial for students' progression to secondary and higher secondary levels. PEC exams serve two purposes: a) they promote students for secondary education and b) provide data to identify strengths and weaknesses in students' performance.

Figure 4: Enrolment Under Punjab Foundation Programs (2015-16)



Source: Pakistan Education Statistics

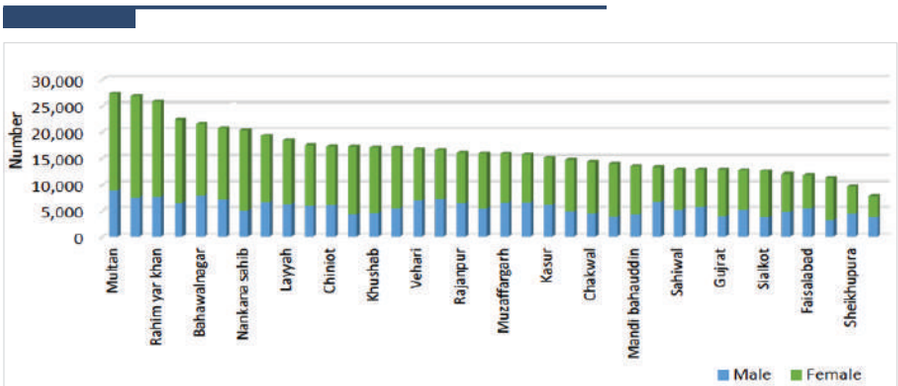
6.2.4.2 Non-formal Education

Non-formal Basic Education (NFBE)

The NFBE system includes programs like literacy training, skills development programs and community schools initiated by the Non-Formal Basic Education Department in collaboration with UNICEF and the Japan International Cooperation Agency (JICA). These schools are generally run on a 'one-teacher, one-classroom' model and help those with no access to educational facilities gain literacy and basic education skills. NFBE schools use the same curriculum followed in formal primary schools but helps to provide education where regular schools either do not exist or enrollment rates are low. It specifically targets the poorest children and adults, especially in rural areas.

By 2016, there were 18,336 non-formal basic education centers in Punjab (up from 15,886 in since 2009).[8] Some 686,335 individuals are enrolled in these centers, of which 56 percent are female. The number of teachers in the entire NFBE system is 20,814, out of which 16,580 (80 percent) were female. Non-formal schooling is a good way to target females for education.

Figure 5: District Wise Enrolment in NFBE, Punjab (2015-16)



Source: Punjab Literacy and Non-Formal Basic Education

[8]Pakistan Education Statistics 2015-16

Masjid-Maktib Schools/ Deeni madrasahs

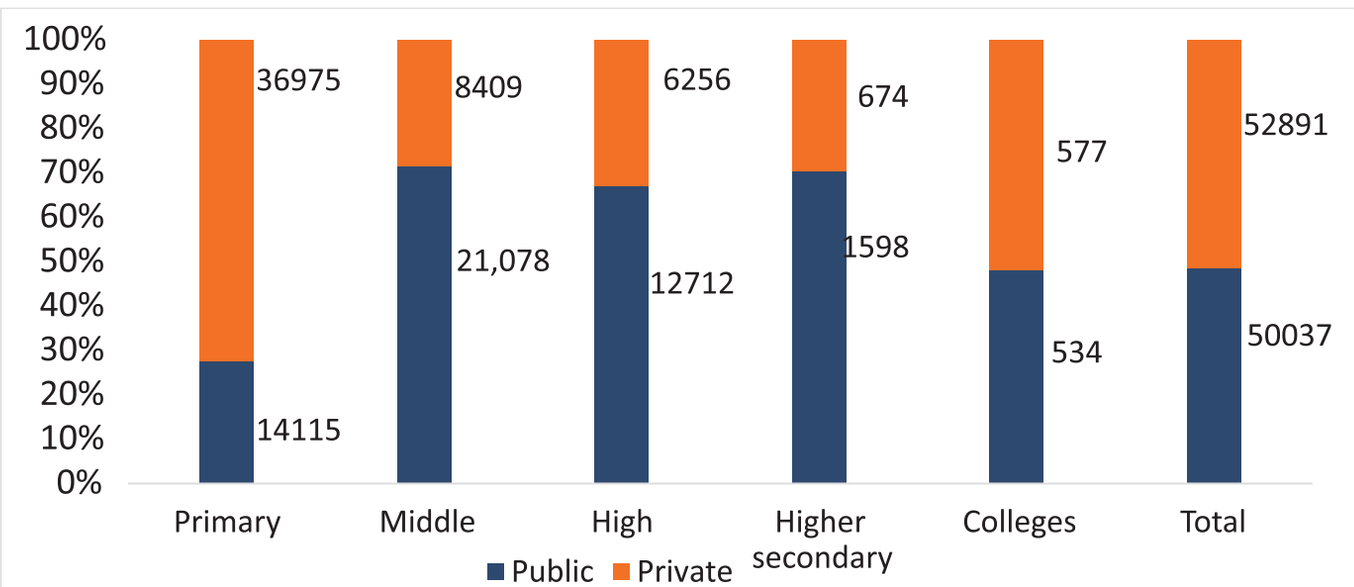
Religious schools also provide education. The main emphasis of madrasah education is on Islamic teachings. However, a majority of the madrasahs also provides formal education. Punjab has around 32,272 madrassahs, majority (over 95 percent) are private. Total enrolment is 2,257,253 of which Male enrolment is 64 percent.[9]

6.2.4.3 Role of the Private Sector

Public vs. Private School in numbers

The private sector plays a significant role in providing education in Punjab. Just a little under half the children attending private schools in Punjab.[10] For private schools, more than half of the enrolment (compared to just 30 percent for public schools) is in urban areas. Hence, while private schooling remains a popular choice in several districts, children from rural areas and those living in poorest households are more likely to attend public schools.

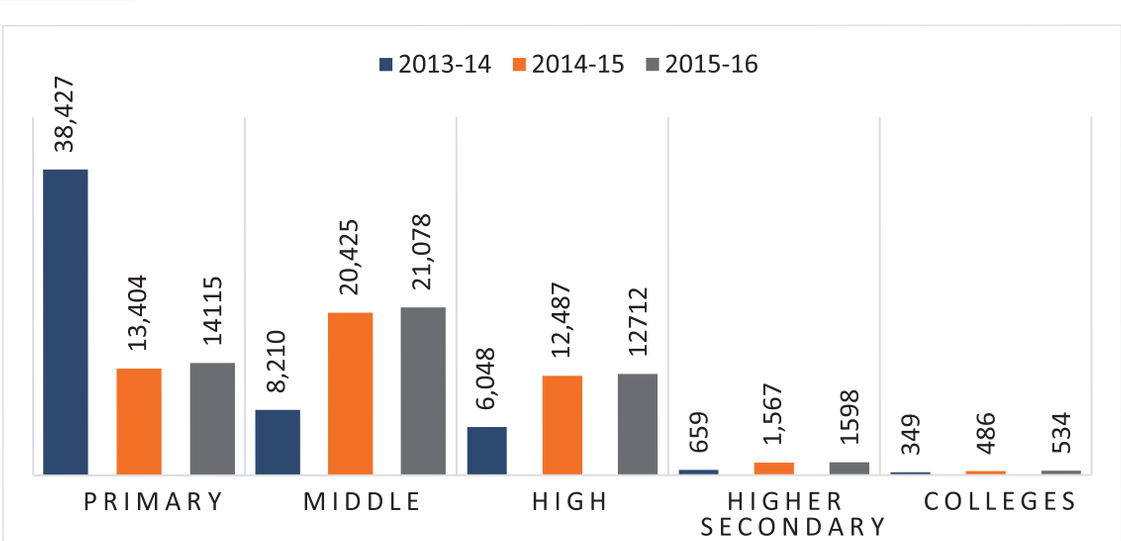
Figure 6: Public and Private Education Facilities in Punjab, 2015-16



Source: AEPAM 2015-16

According to the Pakistan Education Atlas 2017, Punjab has a total of 105,178 education institutions; out of which 52,314 are public owned and 50,054 are private. Of a total enrolment of 22,188,894, the public-sector accounts for 53 percent of enrolment while rest is in private institutions.

Figure 7: Private Schools in Punjab 2016



Source: Pakistan Education Statistics

[9]Ibid

[10]Education Statistics, 2017

Preference for private schools

Research shows that parents opt for private schools not only because of lack of access to public schooling but also because of the perceived quality of education in public schools as extremely low.[11] Annual Status of Education Report (ASER) data also confirms that private schools perform better than government schools when measuring learning outcomes. Enrolments are only slightly higher in government schools.[12]

Low cost schools in Punjab

Where governments are failing to provide children with a decent education, the private sector is stepping in. The non-profit sector is an important player in Pakistan, running a large number of educational institutions, including low-cost schools. Many of these schools draw their resources from local communities, with models that are replicable on a larger scale.

Private school models

The most prevalent private school models that can be found in Punjab are: low-fee private schools, high fee charging schools, public private partnership schools such as the ones run by the Punjab Education Foundation, non-governmental organization (NGO) run schools, schools run by madrasas and community run schools. At present, the private school system is largely composed of institutions that are for-profit, fee-based, secular, and autonomous.

The growth of low-fee private schools has been particularly salient in recent years, notably in Punjab where the government has proactively promoted the expansion of such schools through PPP modalities managed and financed through the Punjab Education Foundation (PEF).

6.2.5 State of Education in Punjab

6.2.5.1 Access to Schools

Inadequate access to schools remains a key issue. Accessibility may be understood at two levels: horizontal accessibility refers to the presence of a schooling facility within a 2 km radius of a household, while vertical accessibility refers to the ability to ensure smooth transition from one level of education to the next. Punjab needs improvement on both counts.

Research in Punjab shows rural communities are acutely conscious of the issues of quality, cost, and distance, and how well their child, teachers and school are doing[13] (Andrabi). A survey in Punjab found that low educational attainment was correlated with higher distances from schools[14] (Bhatti, Malik & Naveed, 2011). Hence, proximity to school is identified as key determinant of primary school enrolment and retention: the further a child lives from a school, the less likely he/she is to attend with girls three to four times more likely to drop out.[15] Security concerns about sending children, especially girls, to schools discourages parents from enrolling their children.

Distance to school matters far more for girls than boys. Girls' enrolment declines by up to 20 percentage points for every 500-metre increase in distance from the closest school admitting girls, and this 'distance penalty' may account for a significant proportion of the gender gap in enrolment.[16]

The high share of girls in NFBE institutes (65 percent)[17] also implies the need of more formal schools for girls in close proximity of their residences (especially in rural areas).

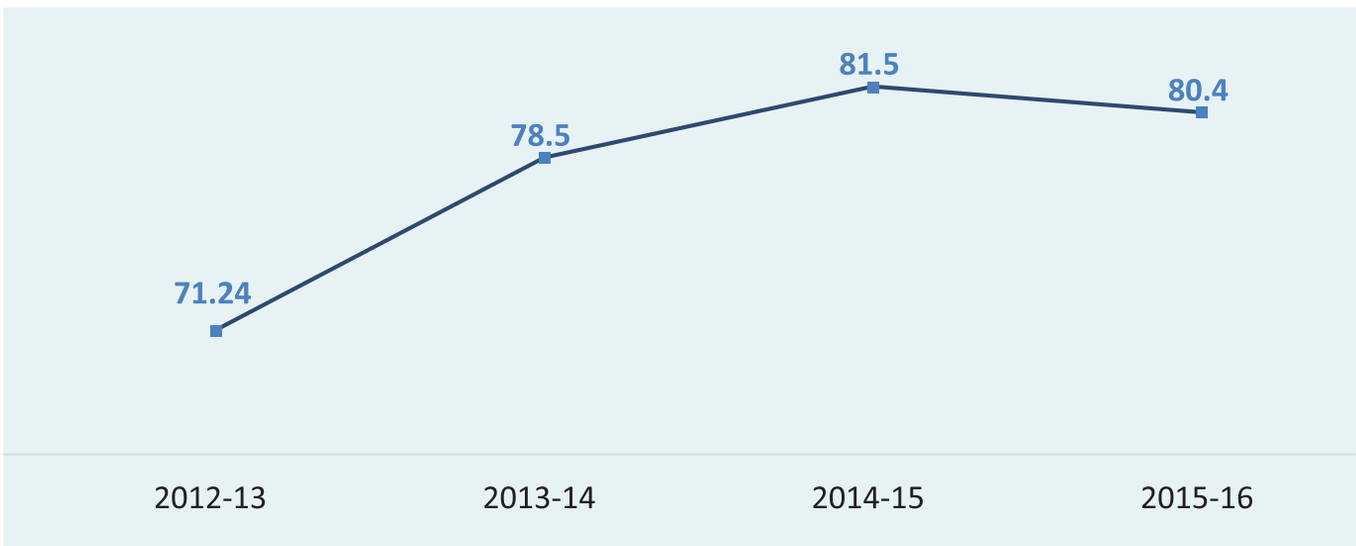
[11]Ahmad, H & Sheikh, S.A. (2014) Determinants of School Choice: Evidence from Rural Punjab, Pakistan, The Lahore Journal of Economics 19:1 (Summer 2014): pp. 1–30 - Parents consider private schools to have better infrastructure, more competent teachers, and a higher standard of subject teaching in disciplines such as mathematics, English, and science
- The study is based on primary data collected as part of the Privatization in Education Research Initiative (PERI) by the Lahore School of Economics in collaboration with the Punjab Bureau of Statistics. The sample consists of 1,024 households that were visited twice—once in 2007 as part of the Multiple Indicator Cluster Survey, and subsequently in April 2011 for a second round of data collection.
[12]ASER 2015
[13]Andrabi, et al., op. cit.
[14]Bhatti, F. Malik, R. Naveed, A. (2011) Insights from a Quantitative Survey in Punjab and Khyber Pakhtunkhwa. RECOUP Working Paper Series No. 39. http://ceid.educ.cam.ac.uk/researchprogrammes/recoup/publications/workingpapers/WP39_RECOUPQuantSurvey.pdf
[15]Andrabi, T., Das, J., Khawaja, A., Vishwanath, T. &Zajonc.T. (2007). Learning and Educational Achievement in Punjab Schools: Insights to inform the education policy debate.
[16]Learning and Educational Achievement in Punjab Schools (LEAPS), Insights to Inform the Educational Policy Debate, Report Summary, April 2008.
[17]Pakistan Education Statistics 2015-16

6.2.5.2 Early Childhood Education (ECE)

Target 4.2 of the SDGs states governments should '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'. It was only in 2013 that Punjab government began to mainstream the ECE in public schools and developed an ECE strategy with the support from UNICEF. ECE remains critical to ensure universal primary enrolment and improved retention in schools.

According to Pakistan Education Statistics 2015-16, there are 4.8 million children enrolled in pre-primary, of which 2.1 million are in public sector schools. Gross enrolment has increased over the years. However, ASER Survey[18] shows the proportion of enrolled children in pre-primary in rural districts has decreased to 53 percent in 2015 from 55 percent in 2014.

Figure 8: Pre-Primary GER-Punjab



Source: Punjab Education Statistics (various issues)

Punjab does not have separate early childhood (pre-primary) public sector institutions. A section within government-run school offers ECE to children aged 3 to 4 by enrolling them kachi (-1) and pakki (0) classes. Not all public schools, however, offer these classes. Such young learners do not have access to any specially designed classrooms or any trained teachers. In fact, there is also no separate allocation of teachers for pre-primary education in the public sector.[19]

6.2.5.3 Primary and Secondary School Participation

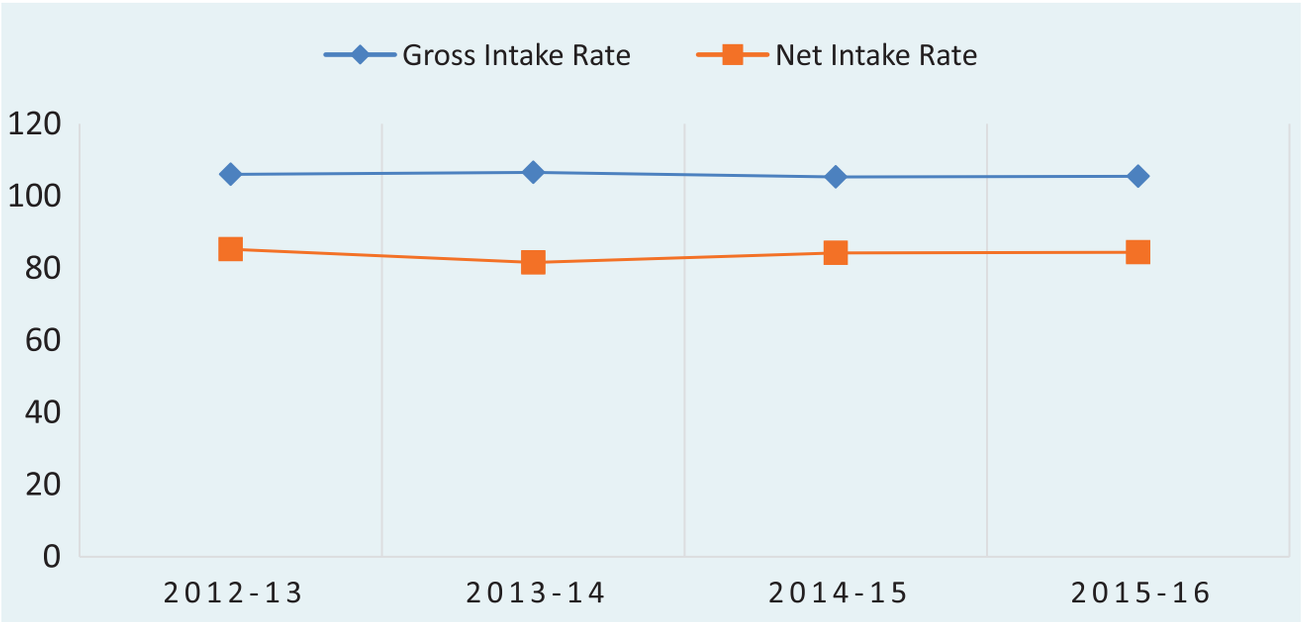
Primary Intake/ Admission Rates

Official statistics confirm that primary intake[20] (admission) rates for Punjab have remained stagnant for several years. The primary gross intake rate (GIR)[21] is at 105.5 percent and indicates in general a high degree of access to primary education. However, a much higher GIR that net intake rate (NIR)[22] at 84.4 percent indicates a large number overaged child in primary education. Reasons for this range from late enrolments to high repetition rates (discussed below).

A note: As calculation of GIR includes all new entrants to first grade, including over-aged and under-aged children entering primary school for the first time, it can be more than 100 percent.

[18]Annual Status of Education Report 2014-15- which covers children aged 3 to 5 years across 36 rural districts of Pakistan.
[19]hence the AEPAM data does not reflect their numbers.
[20]primary age is 5-9 used by AEPAM
[21]Total number of new entrants in the first grade of primary education, regardless of age, expressed as a percentage of the population at the official primary school entrance age. 22Total number of pupils of official primary school entrance age who are enrolled in primary education, expressed as a percentage of the population of the same age. It is the equivalent of the Age-specific enrolment rate of official primary entrance age.
[22]Total number of pupils of official primary school entrance age who are enrolled in primary education, expressed as a percentage of the population of the same age. It is the equivalent of the Age-specific enrolment rate of official primary entrance age.

Figure 9: Primary Intake Rates (Punjab)



Source: Punjab Education Statistics (various issues)

Admission rates vary by gender with boys having a higher intake rate at 86.4 percent compared to 82.3 percent for girls.[23] PSLM data also confirms urban-rural disparity – net enrolment in urban areas was last calculated at 80 percent compared to 66 percent for rural areas.[24]

Primary Net Enrolment Rates

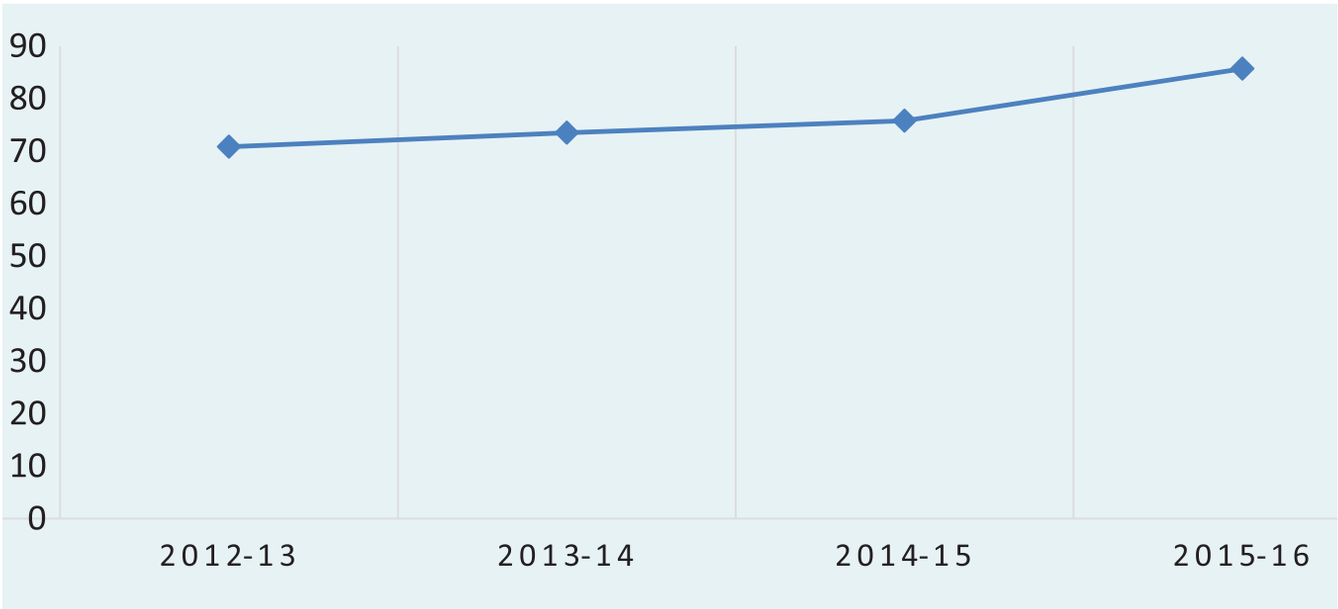
Different from intake rates, the Net Enrollment Rate (NER) measures the number of children of official primary school age, enrolled in primary education as a percentage of the total children of the official school age population.

The Adjusted Net Enrolment Rates (ANER) goes one step further and gives a more precise measure of the participation of the official primary school age population (excluding pre-primary). While NER shows enrolment of children in the official primary age bracket (5 to 9) in primary education only, adjusted rates extend the measure to those of the official primary school age range that are also attending secondary education as they might have accessed primary education earlier than the official entrance or they might have skip some grades due to their performance (for ANER at higher grades). Hence, the difference between adjusted and simple net rates provides a measure of the proportion of children in the official primary age group who are attending secondary education.

Education statistics report primary ANER has been steadily increasing. An increasing ANER might mirror improving participation of children in the official primary school age, the decrease of the target population or both.

[23]Punjab Education Statistcis 2015-16
[24]PSLM 2014-15

Figure 10: Adjusted NER (Punjab)

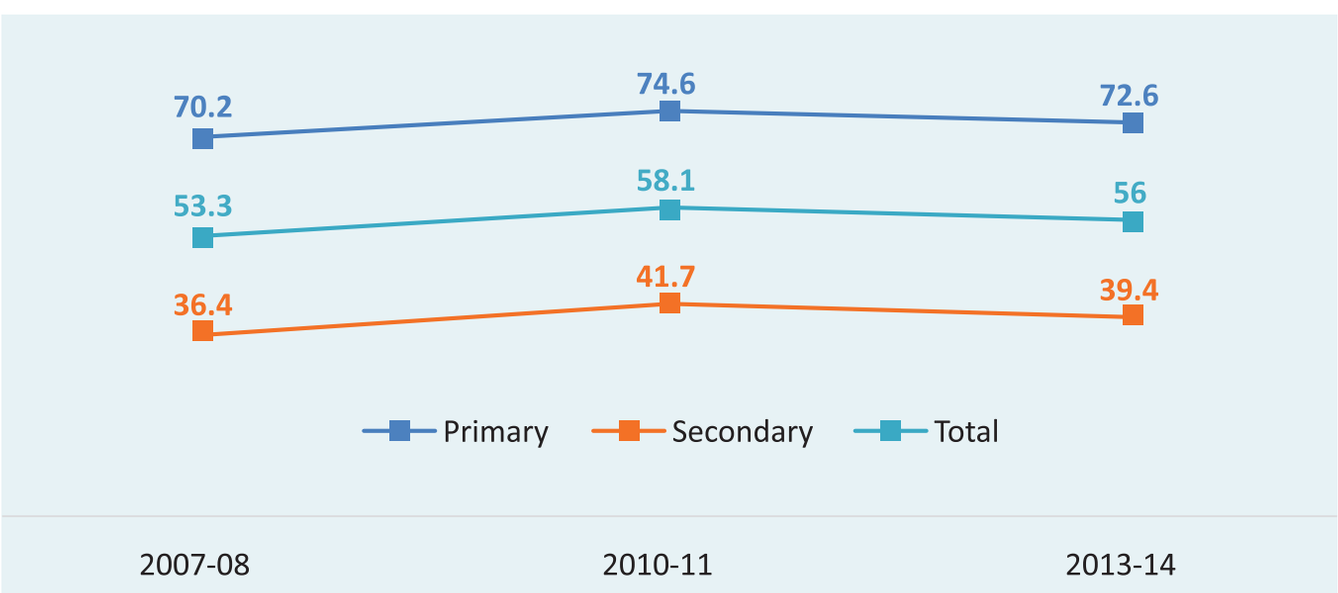


Source: Punjab Education Statistics (various issues)

Adjust Net Attendance Rates (ANAR) for Primary and Secondary

ANAR measures attendance instead of enrolment. These calculations have been made using PSLM data.[25] These calculations required data from household surveys, hence PLSM for 2014-15 could not be used for these calculations.

Figure 11: ANAR in Punjab



Source: Authors Calculations using PSLM Data

Calculations show that ANAR for six-year-olds (at 72.5 percent) is the lowest suggesting that many children do not start primary school at the official entry age. In fact, almost 18.7 percent of the lower-secondary (middle school) aged children are attending primary with some (0.1 percent) also attending pre-primary (significantly down from 37.7 percent and 0.4 percent in 2007-08).

Moreover, primary ANAR for rural (75 percent) is lower than urban (86.1 percent); primary ANAR for poorest Females (63.1 percent) is lowest and richest females is highest (91 percent). Whereas for males this spread is between 75.5 percent and 93.7 percent. These results suggest that poverty reduces female education significantly more than boys.

[25]PSLM contains relevant household indicators that are used to do these calculations based on the framework methodology developed by UNICEF. Details can be found here.11https://pwd.punjab.gov.pk/system/files/Initiatives_0.pdf

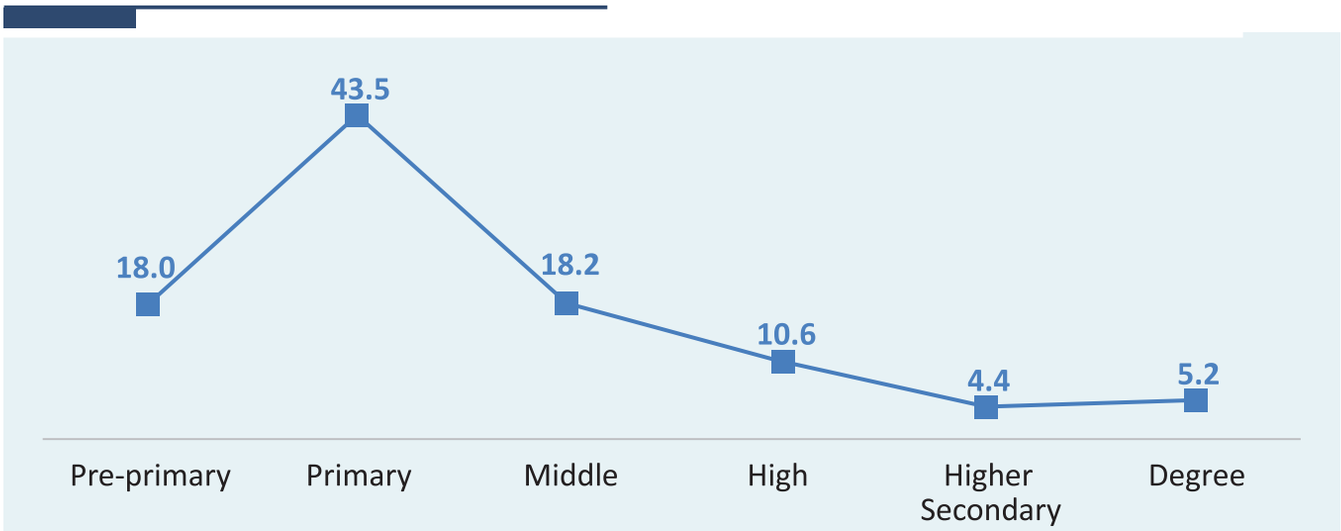
More recent data on overall school attendance, collected by Project Monitoring and Implementation Unit[26], confirms that attendance across multiple levels has increased from 78.65 percent in 2011 to 88.45 percent in 2015 and stands at 95.5 percent (as of March 2017).

6.2.5.4 Transition to Higher Levels of Education

Dropout Rates

The dropout of primary school students is a very common phenomenon thus improving retention remains a serious concern for the government. Absolute enrolment drastically drops from 9.9 million at primary to 3.7 million at secondary.[27]

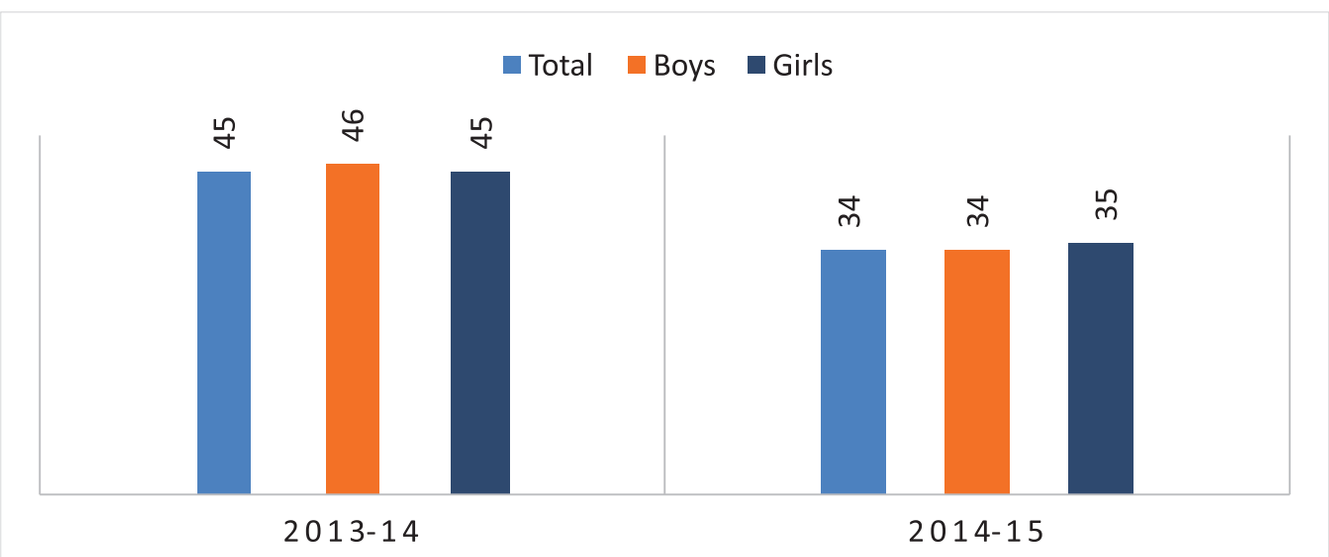
Figure 12: Level wise enrolment (as a percentage of Total enrolment) in Punjab



Source: Education Statistics 2015-16 (authors own calculations)

The latest Alif Ailan Rankings[28] based on 2014-15 data calculates primary dropout rates at 34 percent. Though lowest across provinces, dropout rates have risen from 26 percent since 2012-13. These rates, however, do not vary much across genders.

Figure 13: Dropout Rates in Punjab



Source: Alif Ailan

Several factors cause students to drop out of school, including but not limited to, low per capita income of families, inadequate facilities in schools, over-crowded classes, poor standards of health and nutrition, and low motivational levels of parents to send their children to school.

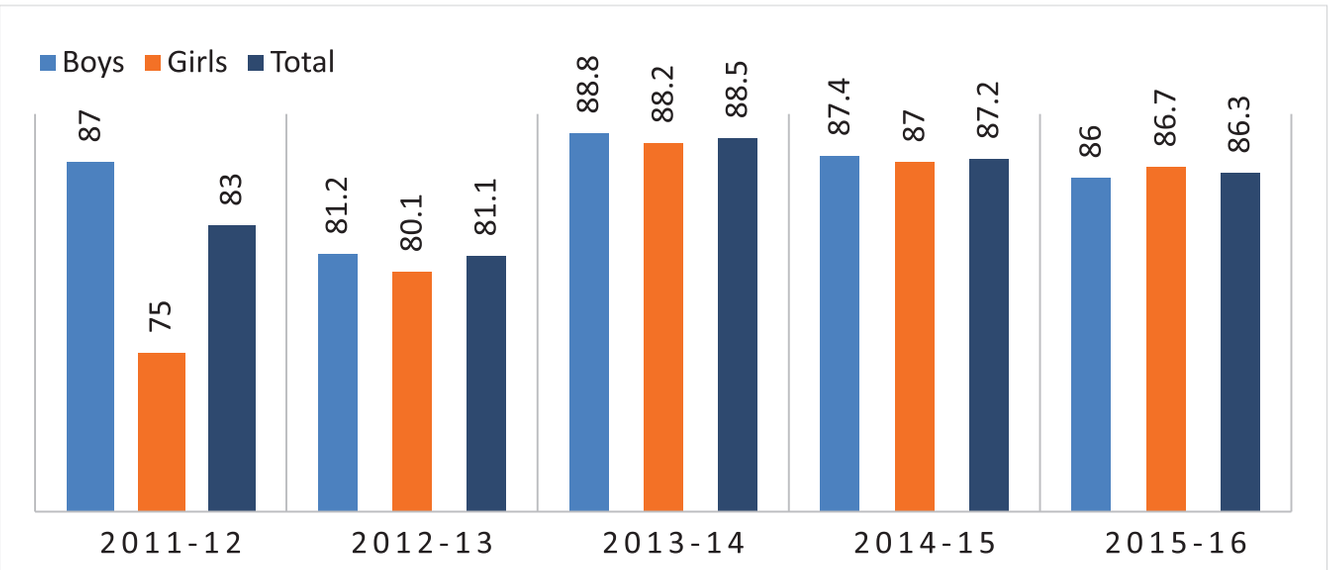
[26]Free, open and real-time data - Access to data about school education across Punjab
[27]Pakistan Education Statistics 2015-16
[28]Alif Ailaan is a campaign that seeks to put education at the front and centre of public discourse in Pakistan. It uses education statistics to rank districts.

District wise analysis further reveals that dropout rates remain highest in Southern districts like Rajanpur, Muzaffargarh and Dera Ghazi Khan. The highest dropout rate is in Rajanpur (78.56) and even higher for girls at 86.27 compared to 71.72 for boys. It is the lowest in Gujranwala (3.82) and zero for girls.[29]

Transition rates

Effective transition rate[30] measures the number of new entrants to the first grade of secondary education as a percentage of the students enrolled in the last grade of primary level of education. It has stayed above 80 percent for several years but there has not been any consistent improvement. Most recent figures show a distinct improvement in transition of girls from primary to secondary.

Figure 14: Effective Transition Rate in Punjab

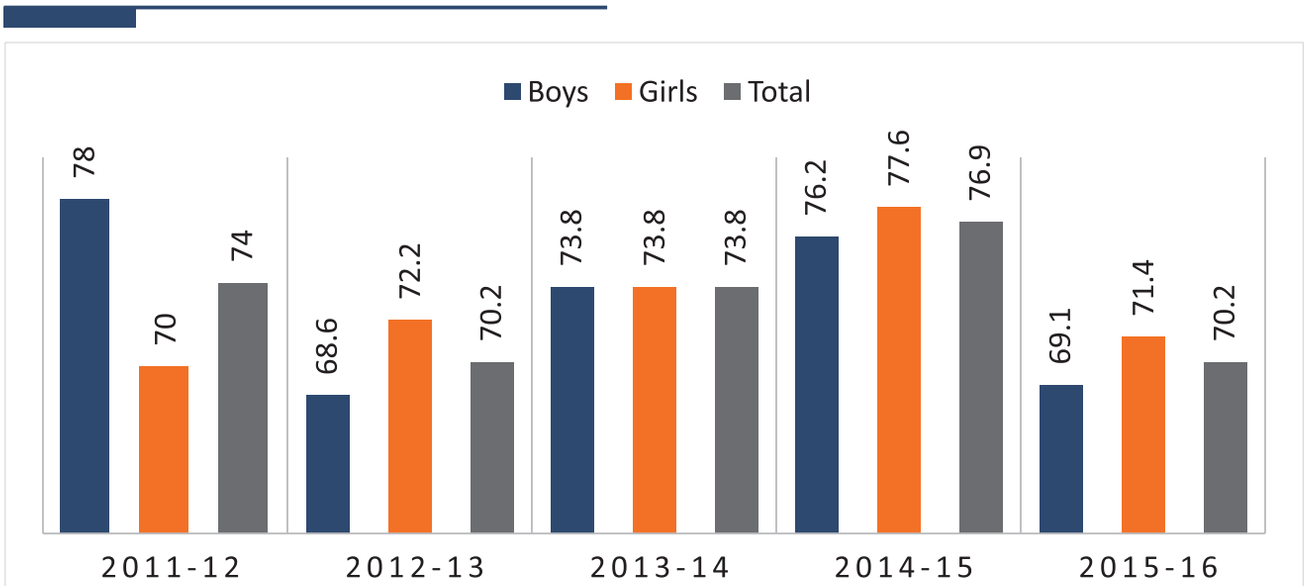


Source: Pakistan Education Statistics

Survival to Grade five

Also called the Retention Rate, Survival Rate to Grade 5[31] measures the proportion of students that reach Grade 5 as a percentage of students enrolled in the first grade. A Survival Rate approaching 100 percent indicates a high level of retention and low dropout incidence.

Figure 15: Survival Rate to Grade Five in Punjab



Source: Pakistan Education Statisics

[29]Gender MIS, PCSW 2017

[30]Number of new entrants to the first grade of the higher level of education in the following year expressed as a percentage of the students enrolled in the last grade of the given level of education in the given year who do not repeat that grade the following year.

[31]Also called Retention Rate, Survival Rate to Grade 5 is the proportion of a cohort of pupils who reached Grade 5 expressed as a percentage of pupils enrolled in the first grade of a given cycle in a given school year.

As a result of the low survival rate (due to dropouts and enrolment) class wise enrollments decrease with every level. Since the survival rate, is directly related to the dropout rate, Rajanpur, Muzaffargarh and Dera Ghazi Khan, once again, have the worst survival rates.

6.2.5.5 Literacy Rates

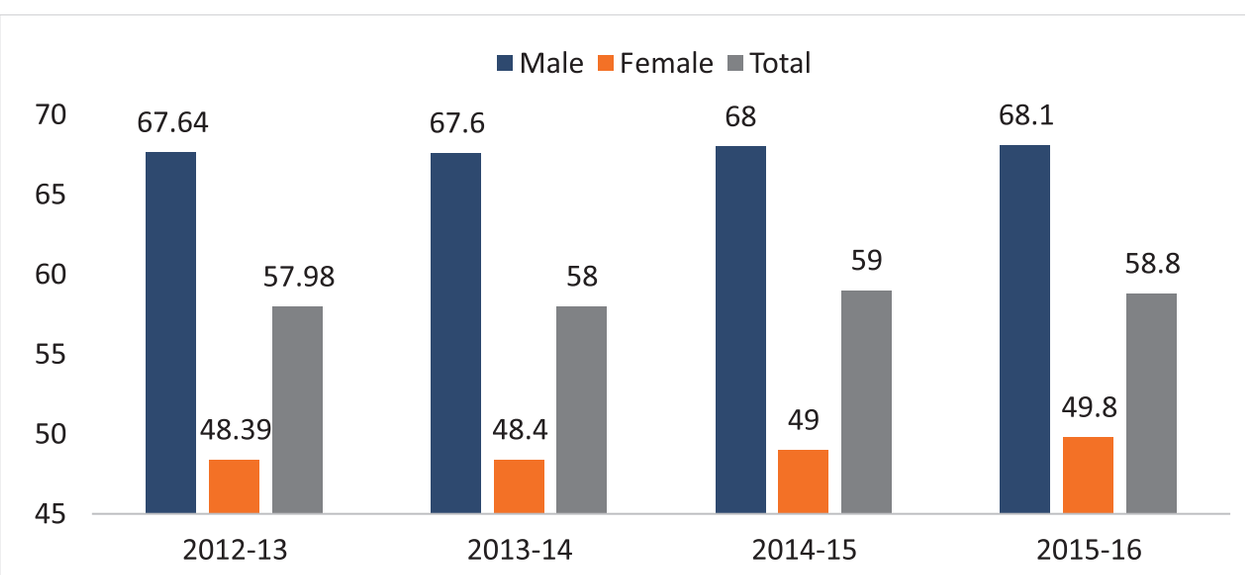
Literacy is a key measure of the quality of education. The literacy rates fell in Punjab in 2013-14, the first year after the new government came into power. It recovered in the following years and now stands at 63 percent.

Figure 16: Literacy Rates (%) in Punjab

Source: PSLM Various Issues - Figure for 2015-16 from economic survey

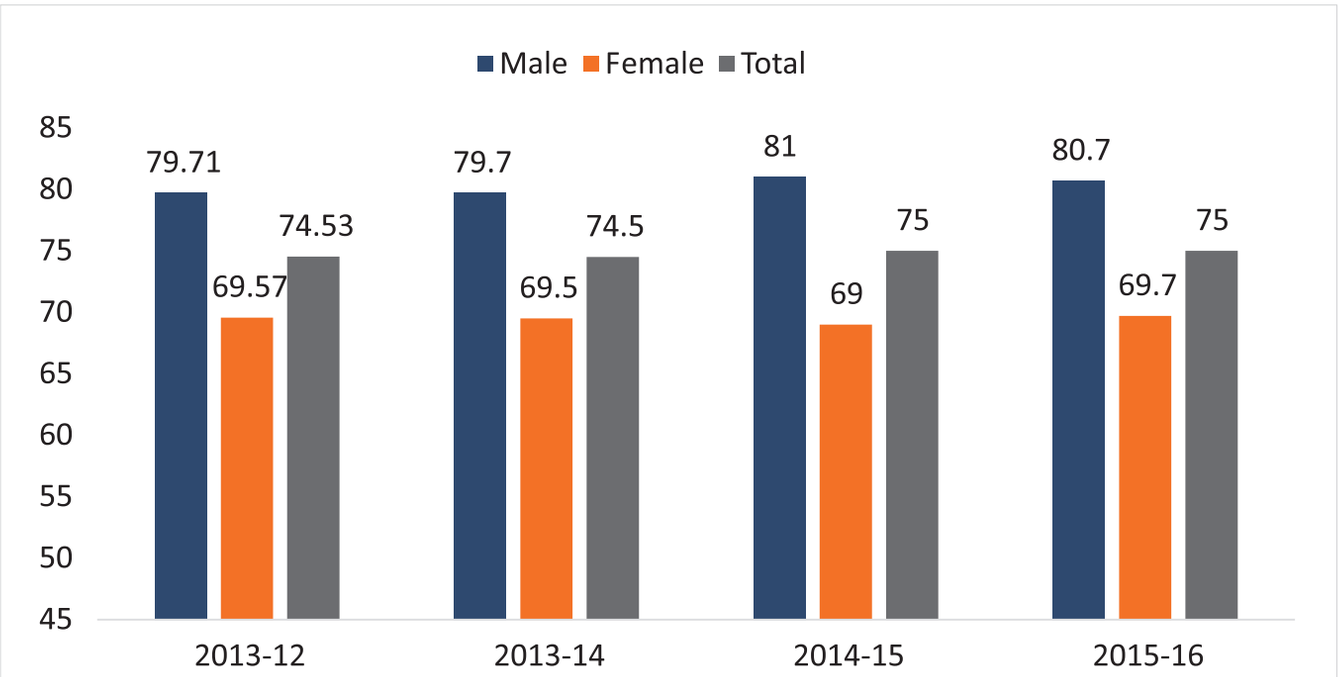
Substantial gaps also persist across genders and between urban and rural areas. The literacy rate for males in 2016 was almost 15 percentage points higher than that for females.

Figure 17: Adult Literacy Rates (2012-16)



Source: AEPAM

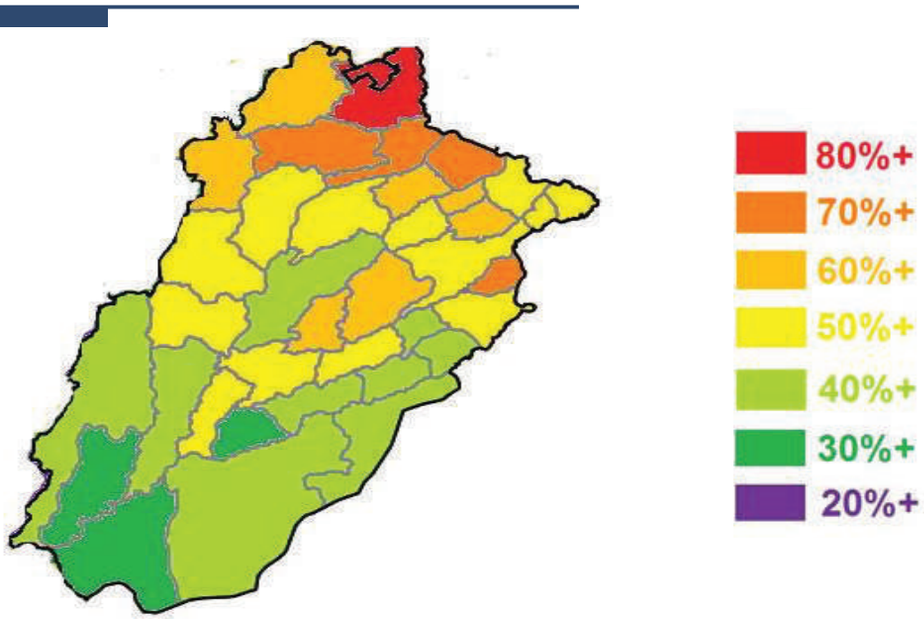
Figure 18: Youth Literacy Rates (2012-16)



Source: AEPAM

The gap in literacy rates between high and low performing districts was as high as 50 percentage points.

Figure 19: Literacy Rates across Punjab



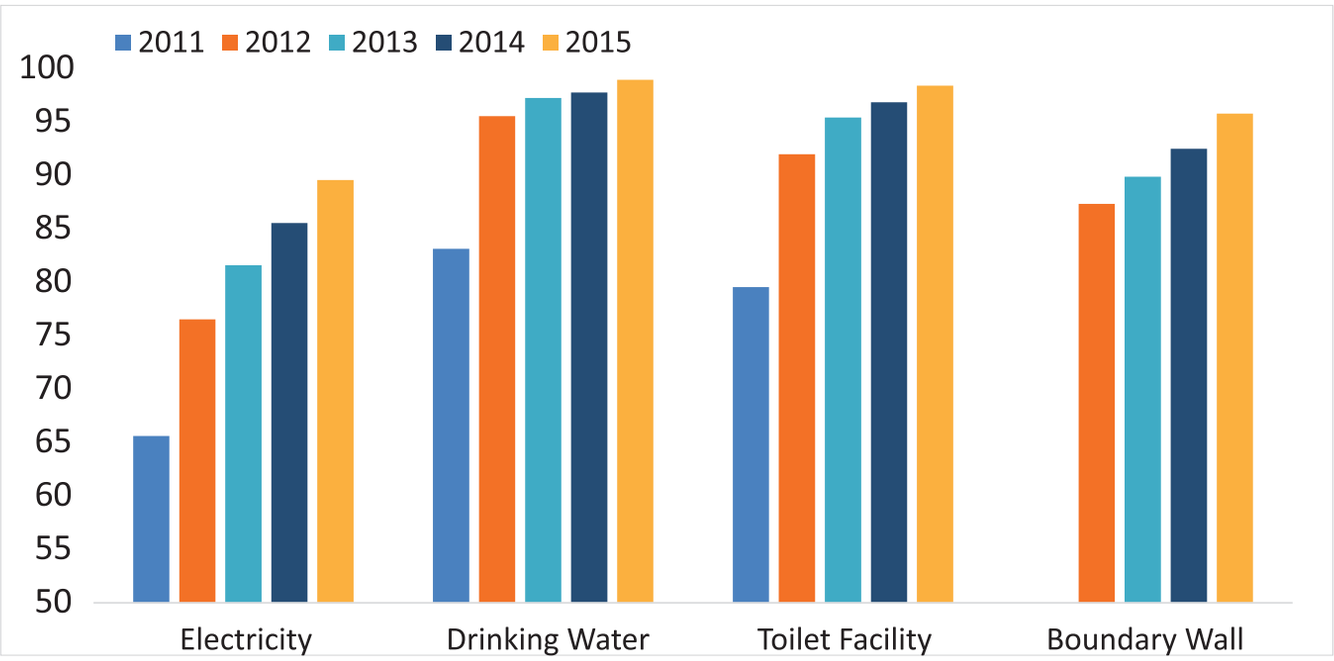
Source: Gender MIS, Punjab

6.2.5.6 Infrastructure

Basic Facilities

The low quality of education is often reflected in the physical state of school infrastructure. The construction of schools and classrooms in general has not kept pace with the rapid increase in enrolment. However, Punjab tops the list amongst all provinces in terms of providing basic facilities in public schools, that include drinking water, electricity, toilets and boundary walls. The provision of basic utilities is consistently increasing.

Figure 20: Provision of Facilities in Punjab 2011-15



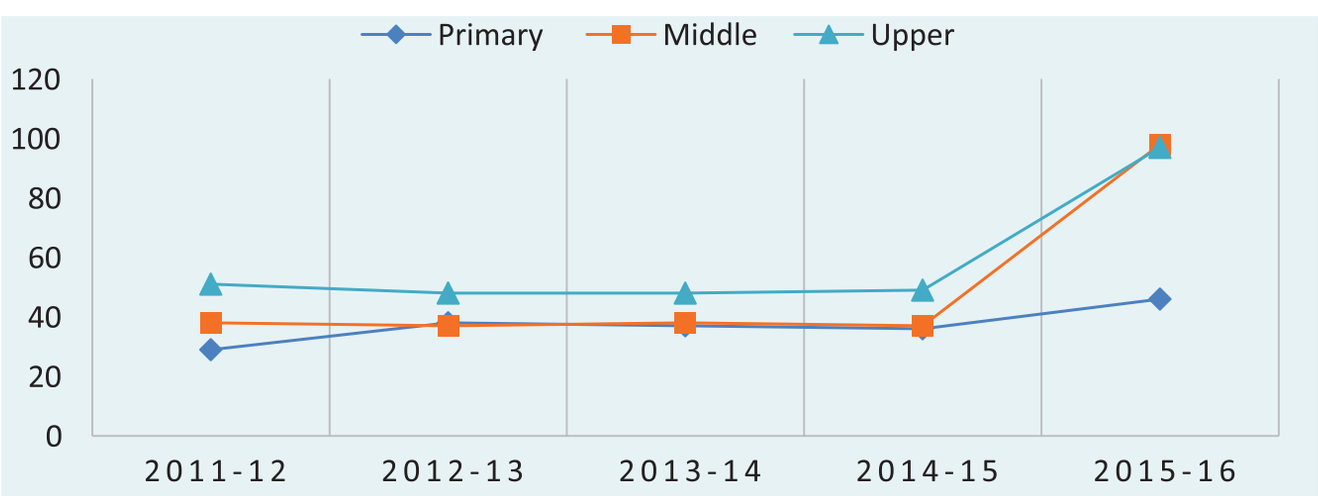
Source: PMIU data (http://open.punjab.gov.pk/schools/home/dashboard_home)

This official assessment is also backed by data from ASER that confirms similar findings for government schools (particularly in rural districts). Almost 93 percent of the schools provide access to drinking water, 94 percent have usable toilets and 89 percent have boundary walls.

Single Classroom schools

The number of classrooms is an important measure of school infrastructure and availability of facilities. Student classroom ratio (SCR) measures the quality of education for a particular level of education as smaller classes allow teachers to focus more on individual needs of students. In Punjab almost 6 percent (more than 2000) schools are single classroom schools.

Figure 21: Student Classroom Ratios (Punjab)



Source: Pakistan Education Statistics (various issues)

6.2.5.7 Gender Disparities

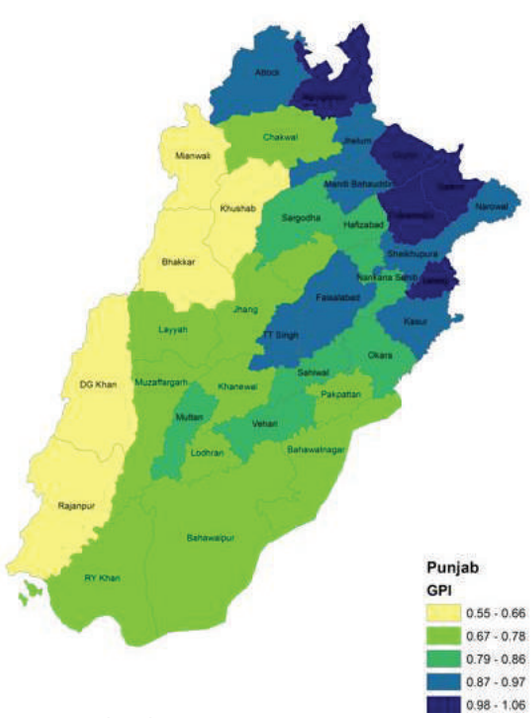
Overall, it seems Punjab is doing much better than other provinces on the basis of gender-disaggregated indicators. Punjab has a higher proportion of female teachers (65 percent) and institutions (30 percent girls, 28 percent boys and rest mixed).[32] On enrolments, 47 percent are girls and rest boys. Middle school enrolment for girls since has also improved over the years as the proportion of girls' schools rose from 51 percent in 2014-15 to 53 percent in 2015-16.[33]

Although eight districts[34] have still not achieved parity in the number of formal schools available for boys and girls, other districts have a Gender Parity Index close to, or higher than, one. While this indicates significant progress on the actual availability of schools for girls, it does not indicate increased enrolment or improved education quality and learning outcomes.

Disparities on other aspects of education continue to persist across districts, income quintiles and urban-rural divide.

- The number of enrolled boys continues to be higher than the number of enrolled girls at every level of education.
- Enrolment drops drastically after the primary level but more steeply so in the case of girls. This could be linked to the opportunity cost of educating boys as opposed to girls in families who prefer to educate boys so that they can become earning members of families.
- Gender gaps also persists in out-of-school children. While ASER 2015 data confirms 8 percent girls (compared to 7 percent boys) aged 6 to 16 remain out school, official Education Statistics calculate 40 percent of the girls (primary to secondary education) are out of school compared to 36 percent boys for 2015-16 (more on this below).
- Household survey data confirms that overall, girls from poor households in rural areas are least likely to be in school and suffer from a triple disadvantage due to location (rural), income status (poor) and gender (girl).
- Disparities across male and female adult and youth literacy rates have been persisting with no narrowing of the gap.
- Gender gaps also continue as boys outperform girls in learning outcomes as well.

Figure 22 : Ratio of male to female students (overall GPI for primary, secondary and high school)



Source: School Census 2015

[32]Pakistan Education Statistics 2016
[33]Punjab Education Sector Reform Program (PESRP)
[34]Bahawalpur, Dera Ghazi Khan, Layyah, Sheikhupura, Rajanpur, Khushab, Pakpattan, Mandi Bahauddin

6.2.6 Quality of Education

6.2.6.1 Earning Outcomes

Research on education reforms repeatedly shows that beyond quantity and funding, there should be deep concerns about the quality of the education that is provided. However, most students in Punjab, as in the rest of Pakistan, demonstrate learning levels lower than what would be acceptable for that grade or age.

This has several implications for Punjab's economy. Without good quality education, it will not be possible to find gainful employment for Punjab's rising workforce. In its latest report, Alif Ailan explores the correlation between schooling and employability and finds a strong link between the number of years spent in school and the kind of job one is likely to get.[35] It calls for reducing the quality gap between the top and bottom tiers of schools across Pakistan to improve prospects of productive employment. Punjab, like rest of the country, already suffers from a lack of skilled labor force. Low quality further hampers the ability of students to acquire skills and benefit from trainings.

There are very few surveys that document learning outcomes and monitor the quality of education being delivered by the public sector. The National Education Assessment System (NEAS) and Learning and Educational Achievement in Punjab Schools (LEAPS) carried out similar exercises before and, unsurprisingly, arrived at similar conclusions: children are not learning in school what they are expected to know.

Some key trends are as follows:

Learning Outcomes are improving

Reports from Punjab Examination Commission for last two years confirm that assessment results are improving for grade 5 and grade 8 students.

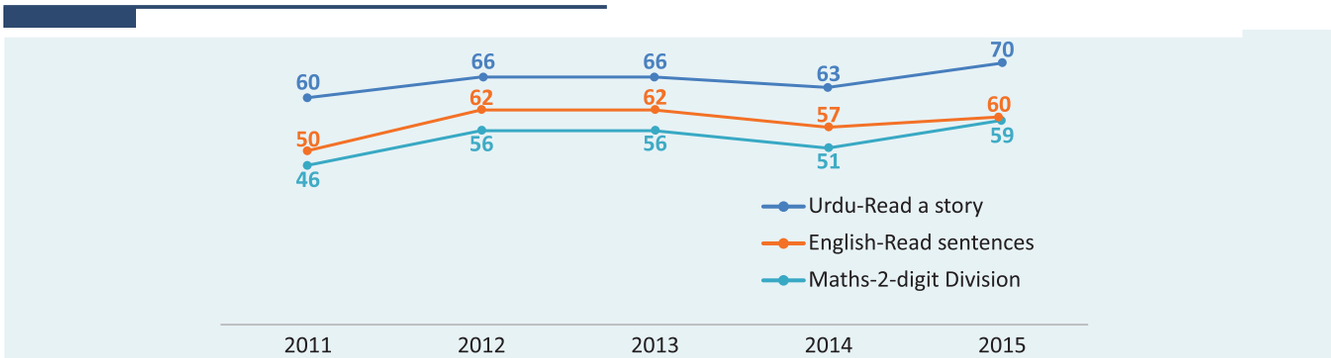
Table 2: Results of the Punjab Examination Commission Grade 5 and Grade 8

		2015	2016
		Percentage passed Grade 5 (2016)	
Public Schools	Male	52.18	71.79
	Female	58.24	78.88
Private Schools	Male	66.01	73.86
	Female	71.27	79.92
		Percentage passed Grade 8 (2016)	
Public Schools	Male	63.78	76.54
	Female	68.32	76.80
Private Schools	Male	72.08	75.32
	Female	75.36	77.37

Source: Punjab Examination Commission Reports 2015, 2016

ASER also regularly reports learning outcomes at the national and provincial levels for rural Pakistan. The most recent survey (2015) recorded learning outcomes by conducting a survey across 1,079 randomly selected villages in 36 districts of Punjab (rural only). The findings confirm improvements in learning levels of children across all three faculties (Urdu, English and Mathematics).

Figure 23: Learning Levels at Grade 5 - ASER 2016



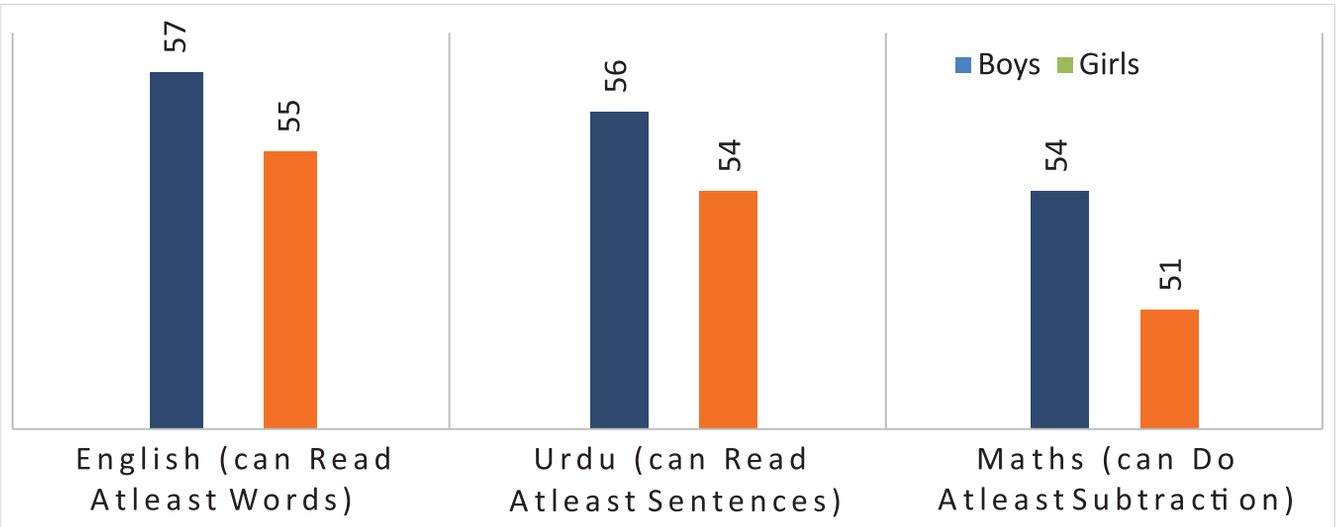
Source: ASER Data

[35]http://www.alifailaan.pk/whogetsthegoodjobs

Gender Disparities persist

Boys outperform girls in every subject.

Figure 24: Learning Levels by Gender (5-16 years-Punjab Rural), ASER 2016

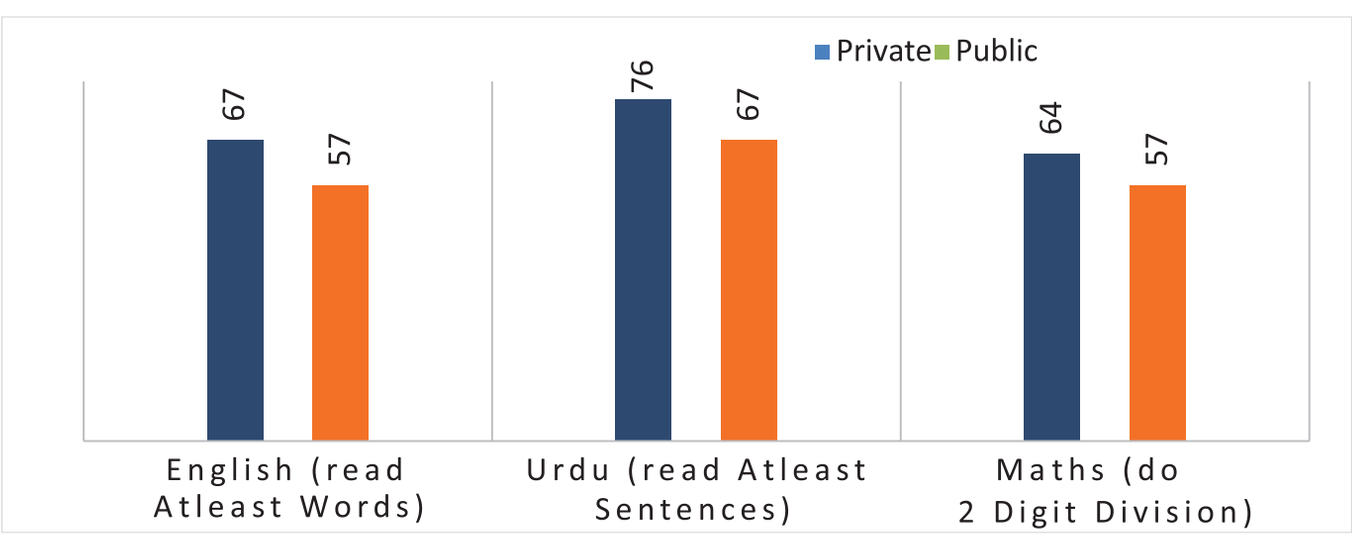


Source: ASER Data

Private sector performs better

ASER data also confirms that children enrolled in private schools (at least in rural Punjab) perform better than their government counterparts. Learning outcomes for all three subjects - Urdu, English and Arithmetic – were better in private schools for students in class 5. This trend has been consistent for several years with little change.

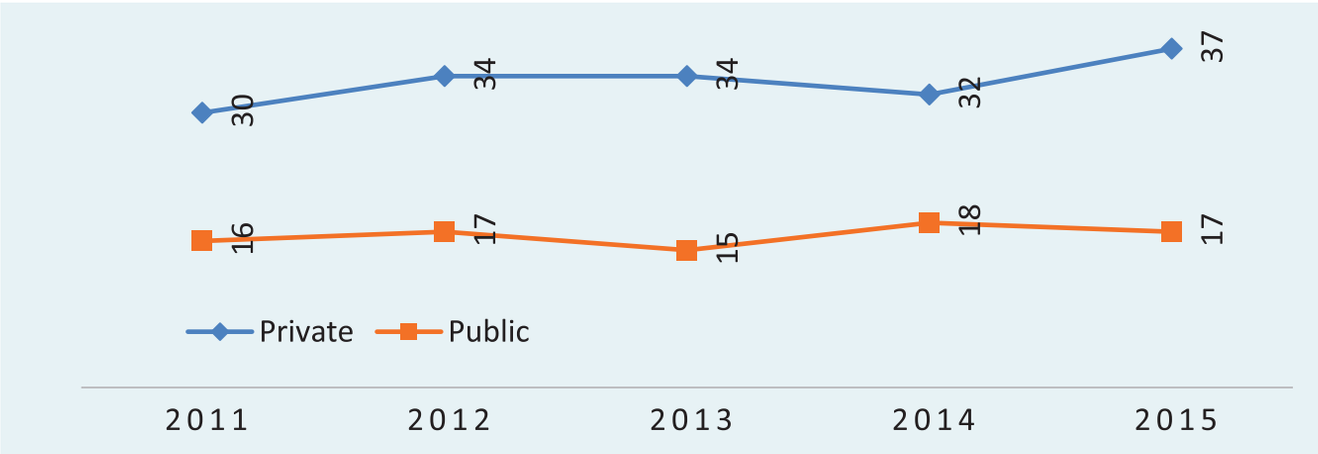
Figure 25: Learning Levels by Schools Type-Class 5 (Punjab Rural)



Source: ASER Data

According to ASER (2015), 37 percent of private school students and 17 percent of public school students undertake private tuition in Punjab. While there is little evidence to suggest that private tuition has a positive impact on learning outcomes. It is then possible that private tuition, instead of quality of education in private schooling, is driving the observed learning gap between public and private schools.

Figure 26: Learning Levels by School Type-Class 5 (Punjab Rural)



Source: ASER Data

6.2.6.2 Teacher Performance

Closely linked to the quality of education and learning outcomes is performance of teachers. Teachers are pivotal to the learning process in schools. Official figures state, Punjab has 343,458 teachers working in close to 52231 schools.[36] Of these, more than half (55 percent) are female.

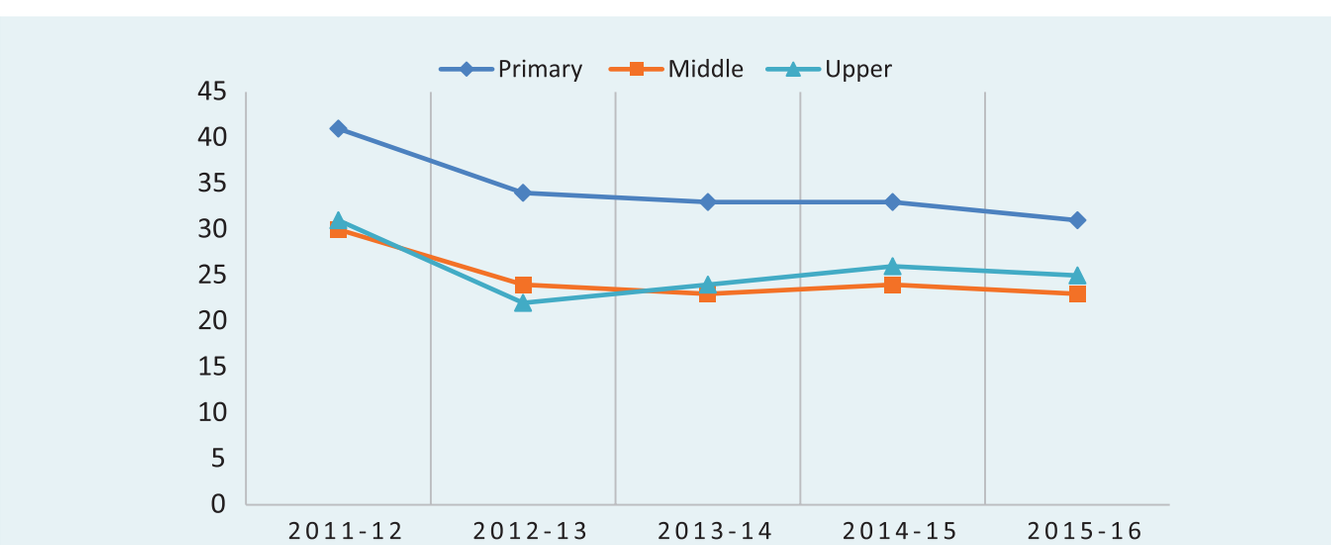
Single-Teacher Schools

A minimum of six separate classes are taught in a primary school (from pre-primary to Class 5). Thus, to avoid multi-grade teaching, a minimum of six teachers are required in any standard primary school. Official figures confirm that 15 percent (down from 17 percent in 201339) of the total schools in Punjab operate with only one teacher teaching multiple grades. This figure is as high as 30 percent for primary schools, and up to 60 percent of these schools operate with two teachers.

Student teacher ratio

STR is a common indicator to determine quality of teaching. A low number of students per teacher indicate students will have more contact with teachers making for a sound teaching-learning process. It also reflects an important indicator of the resources devoted to education. STR for middle and upper is slightly higher than the national average of 22 and 24 respectively.

Figure 27: Student Teacher Ratios (Punjab)

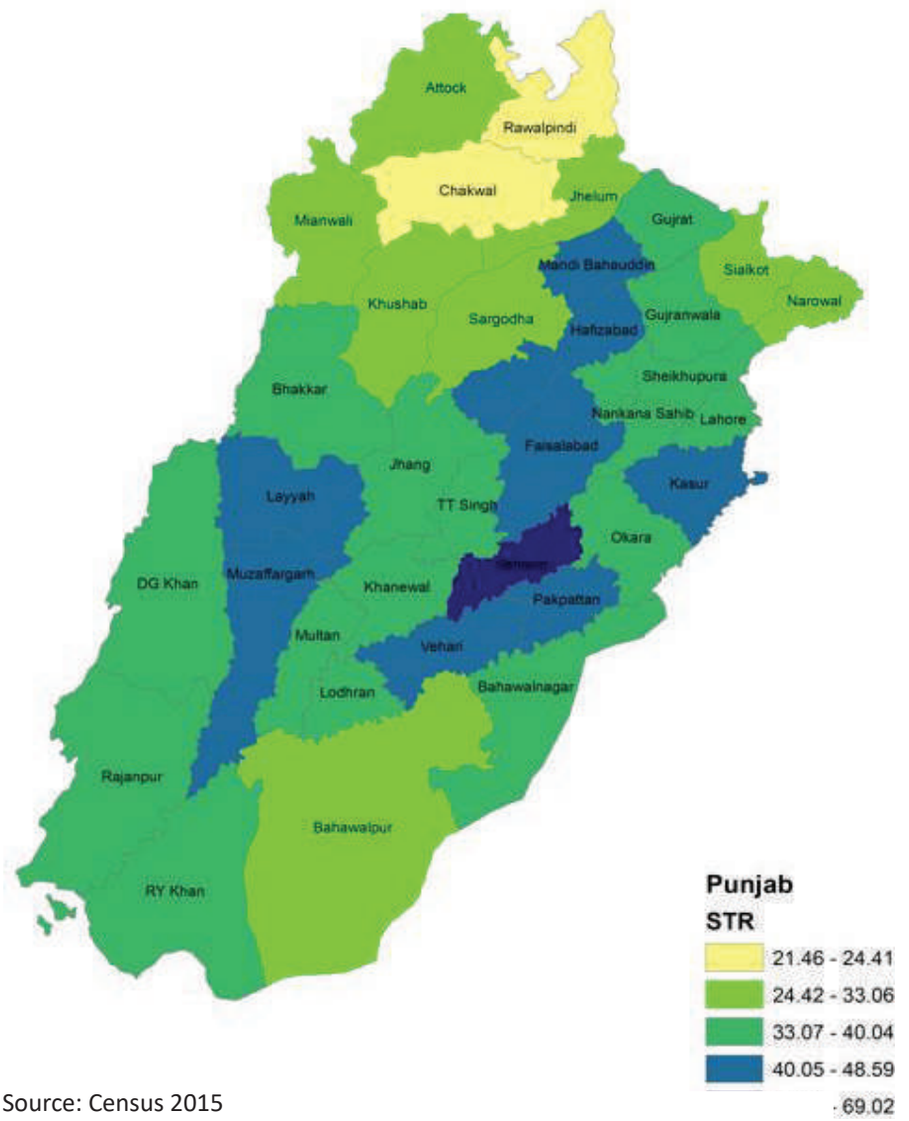


Source: Punjab Education Statistics (various issues)

[36]School Education Department, Government of the Punjab

Regional disparities for primary STR are shown in the map below. The lowest STR is in Chakwal and Rawalpindi and is the highest for Sahiwal.

Figure 28: Primary STR, Punjab



Source: Census 2015

Teacher Absenteeism

Annual teacher presence has gone up in Punjab from under 85 percent in 2011 to 93.2 percent in 2015[37] ASER 2015 data further shows that teacher attendance is better in government primary schools than private schools, yet learning outcomes are better in private schools. As mentioned earlier, this could be due to the rise in private tuitions.

6.2.7 Out of School Children

6.2.7.1 Current Estimates and Limitations

While the Constitution provides every child right to free and compulsory education, a significant share of Punjab's children aged 6 to 16 years remain out of school and are not part of any formal or informal system of learning.

Punjab like the rest of Pakistan faces a serious challenge of out-of-school children (OOSC). These children, mainly from disadvantaged backgrounds, do not have access to schools due to various barriers including poverty, distance to schools, non-availability of schools, lack of awareness and cultural restrictions. A more worrying element is the fact that schools are consistently failing to retain children, resulting in high drop-out and low transition rates.

[37]PMIU data 2017

The latest Pakistan Education Statistics report 2016 confirms a staggering 22.64 million (44 percent of the projected 51.2 million) children aged 5 to 16 remain out of school in Pakistan. It is also estimated that almost half of the OOSC reside in Punjab, where girls and children from the southern districts make up a larger percentage of OOSC. Also, the proportion of OOSC is highest in the lowest income quintile.

Almost 36 percent of Punjab's children are not going to school. These calculations based on Pakistan Education Statistics and also reported in Alif Ailan annual reports, provides estimates that are broad in nature and may over inflate the number of OOSC for a number of reasons:

1. Their methodology combines two different data sources. One, it takes enrollment rate from National Education Management Information System. This data suffers significantly due to the issue of unique student identities. The total number of children between ages 5 and 16 is extracted from projections provided by National Institute of Population Studies. This does not match the base year of the enrollment data.

2. Moreover, the population projections are available by age group, while data on enrollment is gathered by school level not age. Hence, subtracting the two number assumes that correct aged children are enrolled at appropriate levels. This is a very critical assumption as data suggest significant number of over aged and some under aged children enrolled in schools. This methodology is likely to significantly inflate the number of OOSC.

For this reason and some other limitations reported by Alif Ailan, their report also recommends better data collection on OOSC.

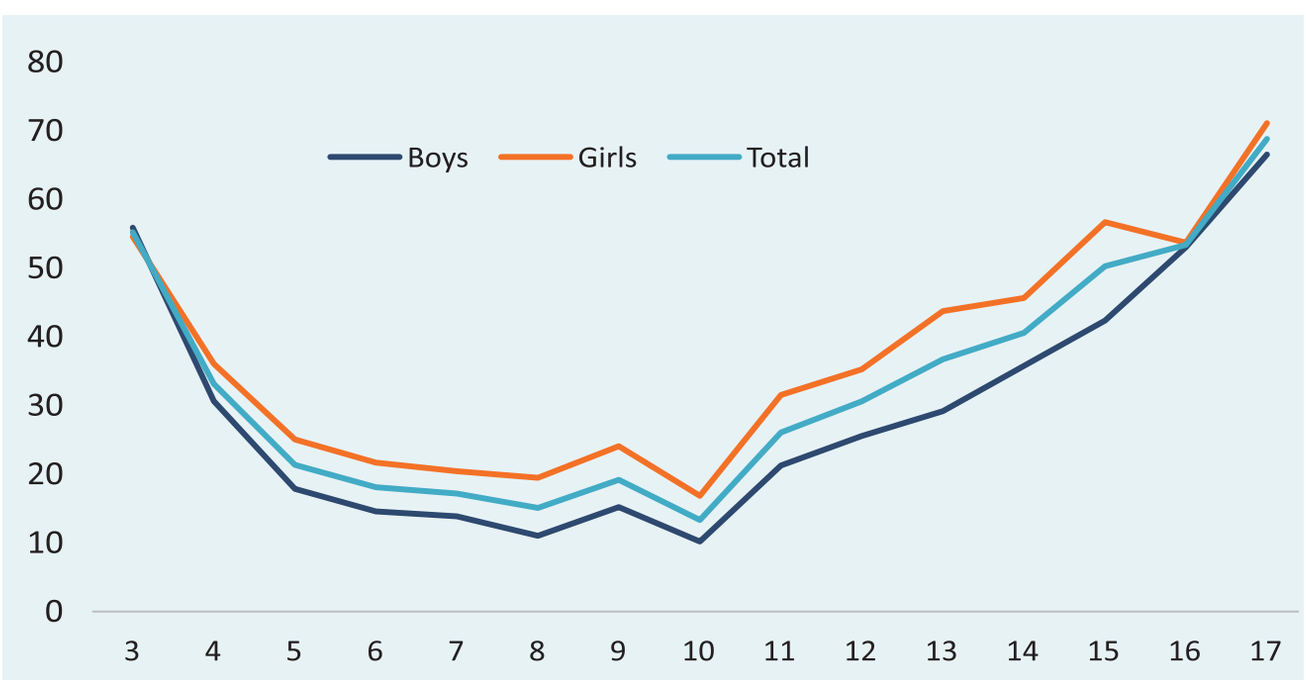
Table 3: Percentage and Number of OOSC in Punjab by Age Group & Sex

	Male		Female		Total	
	2011-12	2013-14	2011-12	2013-14	2011-12	2013-14
Primary School Age	0.812mn	1.02mn	0.992mn	1.36mn	1.80mn	2.38mn
	(16.7%)	(17.9%)	(22.4%)	(25.8%)	(19.4%)	(21.7%)
Middle School Age	0.57mn	0.84mn	0.95mn	1.23mn	1.52mn	2.08mn
	(21.3%)	(24.9%)	(35.4%)	(36.8%)	(28.4%)	(30.8%)

Source: Calculations based on PSLM data

Delving deeper into the trends of OOSC in Punjab aged 3 to 17 shows that the 6 to 10 age group has the lowest proportion of OOSC. In primary age group, the highest rates are observed at the margins (age 5-6 and then age 9). There is a consistent rise in the percentage of OOSC aged 10 onwards as dropouts remain high and transition rates low.

Figure 29: Percentage of Children not Attending School by Age in Punjab



Source: PSLM 2013-14

6.2.8 The Case of Higher Education in Punjab

6.2.8.1 Current Status

Higher education includes education provided by universities and other institutions that award academic degrees. It includes both teaching and research activities of universities, and within the realm of teaching, it includes both undergraduate (tertiary education) and the graduate (or postgraduate) levels.

Higher education differs from other forms of post-secondary education such as vocational education. However, most professional education is included within higher education, and many postgraduate qualifications are vocationally or professionally oriented such as in disciplines like law and medicine. Graduate and post graduate courses are being taught both at universities and affiliated colleges. Exams are conducted by affiliating universities in all affiliated colleges.

After, the 18th Constitutional Amendment, each province is responsible for managing education at all levels including tertiary/higher education. Punjab has a separate administrative Department for Higher Education. It has also gone a step forward and established the Provincial Higher Education Commission.

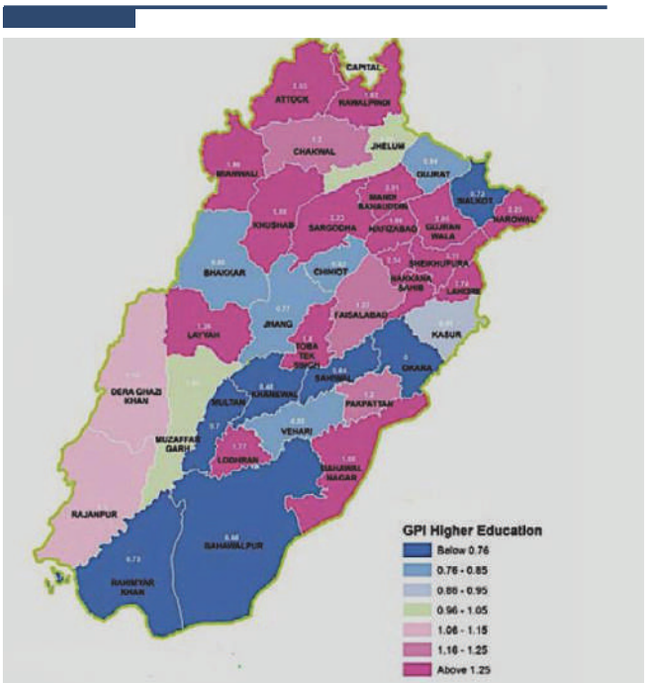
Higher Education Department (HED) is a relatively new department separated from the School Education Department in 2008. The HED has administrative and financial control of Punjab's multi-tiered higher education sector. HED operates through a network of a field headquarter, i.e., Directorate of Public Instructions Colleges (DPI), 9 Divisional Directorates, 37 District Directorates managing close to 700 colleges in Punjab. In addition, 17 Public and 26 Private Sector Universities and 26 autonomous institutions are also operating under the supervision of HED.

The recently established Punjab Higher Education Commission (PHEC) is an autonomous organization of the Government of Punjab geared towards building a skilled Punjab through providing quality higher education. With the passing of historic 18th amendment to the Constitution of Pakistan and devolution of higher education to the provinces, PHEC is in a strong position to address issues of the higher education.

Of the overall enrollments in 144 universities and DAIs (Degree Awarding Institutes) in Pakistan Punjab's share is at 55 percent. There are presently 32 public sector and 24 private universities /DAIs operational in Punjab.

At the moment, Punjab is managing 1170 higher education institutions (including inter and degree colleges, including 100+ commerce colleges offering 2-year degree programs and 95 post-graduate colleges Masters Programs) with a total enrolment of 749,842. It also has 42 degree awarding institutions/ universities of which 26 are private. The share of these institutions in Punjab's overall education system is just 1.1 percent catering to 3.3

Figure 30: GPI of Enrolment in Higher Education 2014-15



Source: Direcorate of Public Instructions Colleges BS. Graduation Part VII, Masters (Part VII)

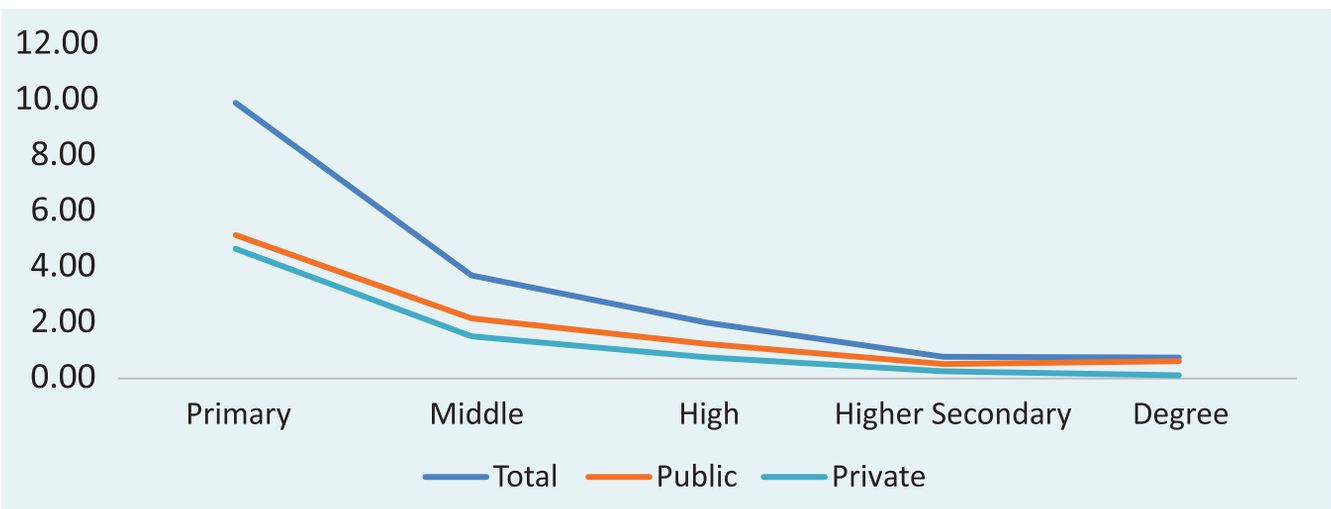
percent of all student enrolments. These students are taught by a little over 14,000 teachers.

Surprisingly enrolment trends show marked improvements for female students transitioning to higher education. In at least 22 districts, female enrolment is higher than males in higher education institutes (bachelors and masters).

6.2.8.2 Challenges

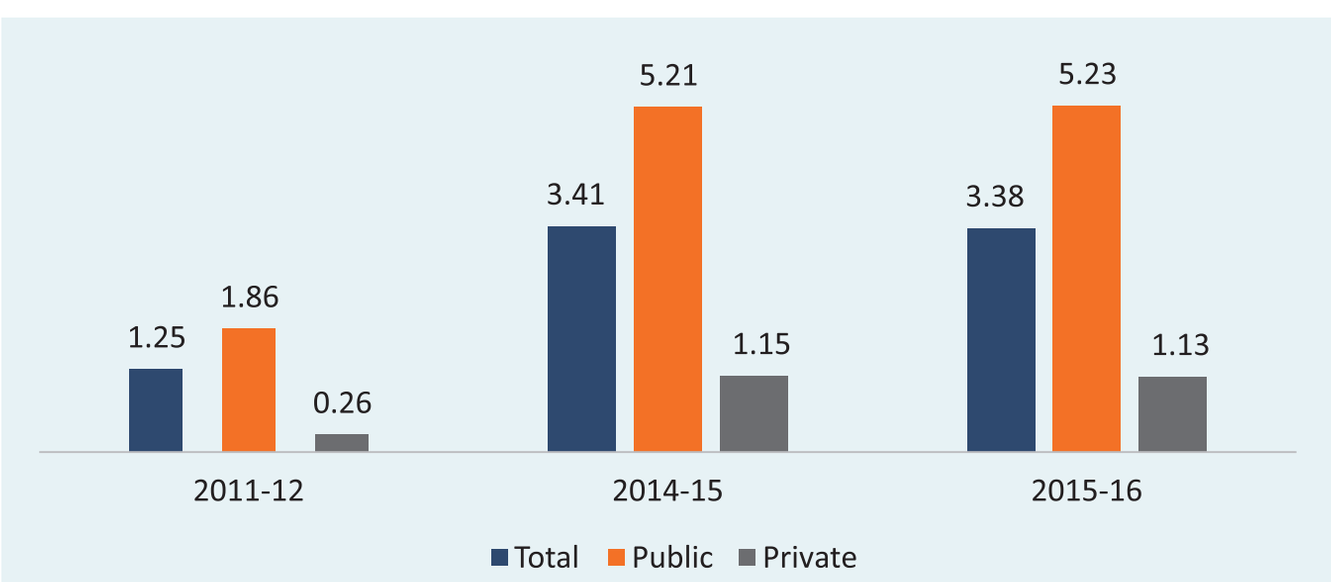
Punjab's higher education sector faces multiple challenges. Access to higher education is low and fragmented with visible regional disparities. While enrolment in higher education is increasing it still remains very low compared to enrollment in primary and secondary levels. It also receives a small part of the total education budget. A considerable challenge is to increase access to quality education at an affordable cost while maintaining / improving quality standards.

Figure 31: Drop in Enrolment (in millions)



Source: Pakistan Education Statistics

Figure 32: Enrolment in Higher Education as a Percentage of Total Employment



Source: Pakistan Education Statistics

Quality of education is another issue of serious concern as the skill levels and learning achievements of the graduates are generally below the usual standards. It also plays a critical role in determining the school-to-work transition. Just 4 percent of the male working age population possesses a bachelor's degree.

The performance of teachers and faculty at higher education institutes in Punjab have shown significant improvement

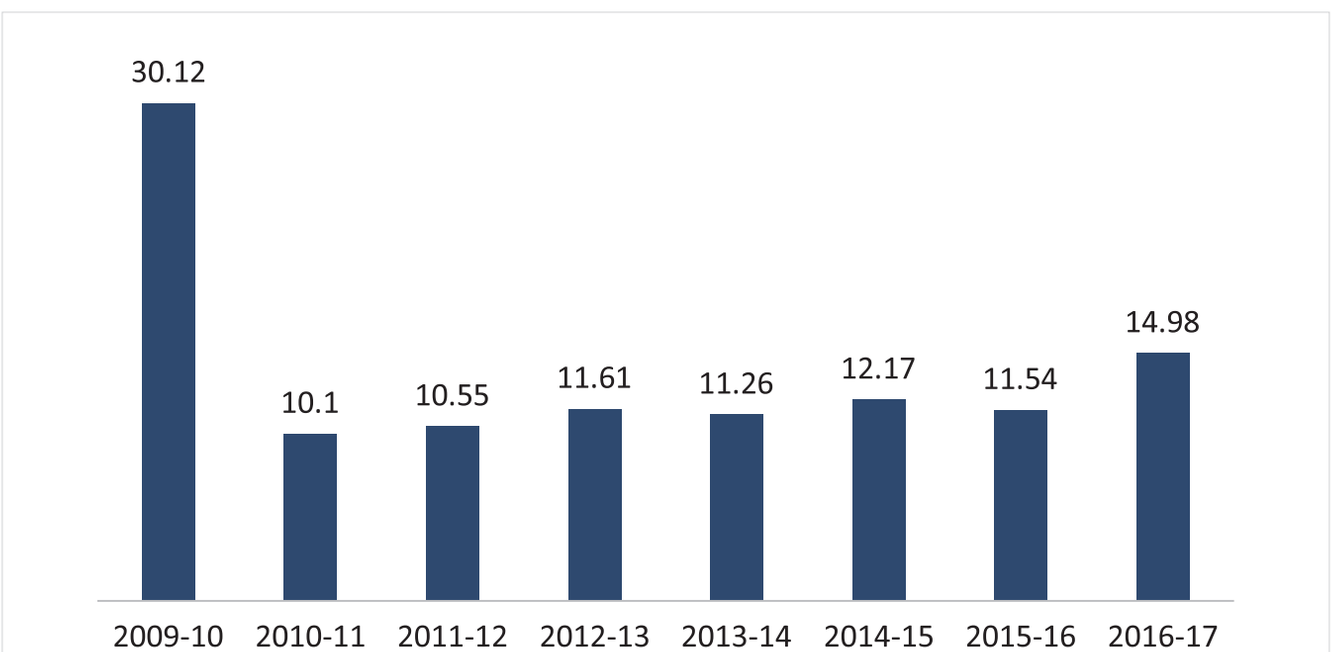
during the last few years. Currently the province has more number of PhDs than ever and teachers at schools are having higher degrees than before. However, currently, it is needed that for further improvement in the teaching quality, capacity training and refresher courses may be designed to update the faculty with new education techniques and practices and this should be an ongoing process. For that purpose, it would be better if the government of Punjab may plan a separate department/organization where the teachers would get training for teaching skills and class room management techniques. Further, the government may also review the promotion and salary structure of faculty to make these compatible with the international standards. Performance based incentive system can have positive impact on the performance of teaching faculty at schools and higher education institutes.

Learning environment plays a key role in skill and learning achievements, yet most of the colleges in the Punjab lack basic facilities.

Most of the programs of study offered at the colleges have little relevance with the job market; a vast majority of the students at all levels (53.9 percent of the total enrolled at Intermediate level, 70 percent at graduation level/ Bachelors and 61.38 percent at Postgraduate level) opt for general studies or Arts subjects.

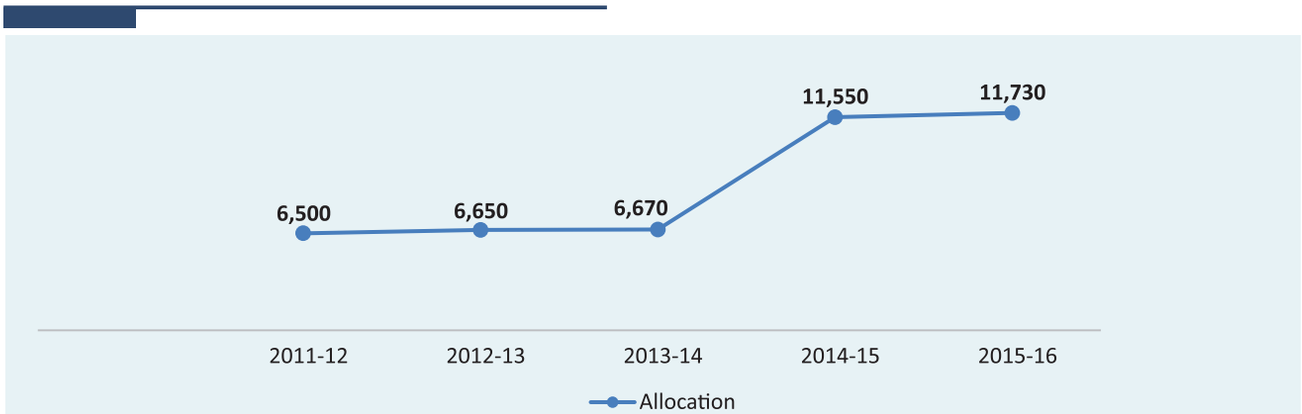
Evaluation of the budget and expenditure trends of HED for the past three years reveals a number of issues; foremost the percentage share of higher education in total education budget has not been consistent. It has risen only marginally in the past several years. The share of higher education in the development budget is slightly higher at 21 percent (same for 2015-16 and 2016-17).

Figure 33: Higher Education Budget as a Total of Education Budget



Source: ISAPs (authors calculations)

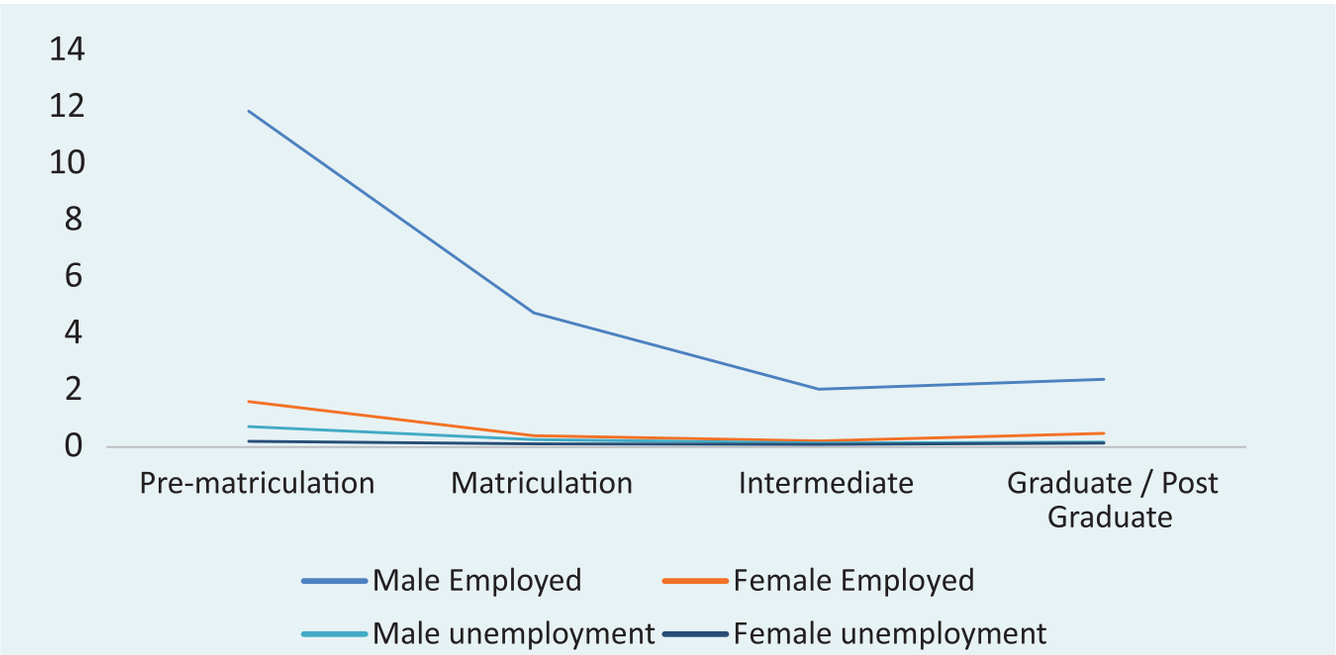
Figure 34: Allocation of Development Budget for Higher Education (Rs Millions)



6.2.8.3 Returns to Higher Education

Looking at labour force participation and unemployment one sees a sharp rise in participation at tertiary, however, unemployment jumps up also suggesting that the economy does not provide enough jobs to cater to the job requirements of these entrants. World Bank estimates suggest that Pakistan needs to create over a million jobs a year to absorb its growing cohort of unemployed. The figure below shows how both male and female employment rates reduce as we move to higher levels of education. There are not enough jobs for graduates.

Figure 35: Allocation of Development Budget for Higher Education (Rs Millions)



Source: LFS 2014-15

Using data from labour force surveys, one finds that each extra year of education increases monthly wages by 7.1 percent for females and 7.6 percent for males in the Punjab.[38] Moreover, every year of experience adds around 5 percent to earnings. In comparison average return on an extra year of education in Bangladesh is around 1.9 percent, 8.2 percent in India and 9.3 percent in Sri Lanka.

Table 4: Measuring Impact of Experience and Education on Wages

	2007-08			2010-11			2014-15		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Experience	0.050	0.048	0.052	0.050	0.047	0.054	0.053	0.051	0.054
Education Years	0.070	0.075	0.064	0.073	0.073	0.073	0.073	0.076	0.071

Source: Authors calculations

Re-running the model by adding additional variable of level of education attainment shows a positive relation between gains and level of education. Highest impact on earnings comes from getting a university degree which increase the monthly earning by 123.6 percent (120 percent in 2007-08). The greatest differential also comes when we move from higher secondary to degree level education.

Table 5: Measuring Impact of Education Levels on Wage

	2007-08			2010-11			2014-15		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Experience	0.048	0.046	0.051	0.048	0.045	0.053	0.050	0.049	0.053
Elementary	0.405	0.444	0.346	0.371	0.365	0.379	0.325	0.329	0.319
Middle	0.496	0.534	0.441	0.496	0.493	0.498	0.476	0.484	0.465
Low Secondary	0.621	0.696	0.523	0.604	0.617	0.590	0.631	0.657	0.608
High Secondary	0.878	0.933	0.801	0.795	0.794	0.795	0.854	0.899	0.804
Degree	1.200	1.256	1.126	1.319	1.293	1.360	1.236	1.241	1.228

Source: Authors calculations

[38]using 2014-15 Labor force data In order to more formally assess the returns the education we have regressed log of monthly wages on variable of interest using 2007/08, 2010/11 & 2014-15Labor Force Data.

Returns to technical training increase from 2.2 percent in 2007-08 to 5.4 percent in 2010-11, however, were at 9.9 percent in 2010-11. For females the gains are even higher where the returns of technical training increase from 3.2 percent to 13.1 percent in 2010-11 and then falling to 6.4 percent in 2014-15.

Table 6: Measuring Impact of Technical Training on Wage

	2007-08			2010-11			2014-15		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Experience	0.048	0.046	0.051	0.048	0.045	0.052	0.050	0.049	0.052
Elem	0.402	0.441	0.344	0.360	0.358	0.361	0.319	0.324	0.313
Middle	0.493	0.530	0.439	0.486	0.488	0.480	0.469	0.478	0.458
Low_Sec	0.620	0.694	0.523	0.599	0.615	0.580	0.629	0.654	0.606
High_Sec	0.876	0.931	0.801	0.797	0.795	0.795	0.854	0.898	0.807
Degree	1.201	1.257	1.128	1.327	1.298	1.370	1.240	1.243	1.236
Tech_Training	0.042	0.045	0.032	0.099	0.074	0.131	0.054	0.042	0.064

Source: Authors calculations

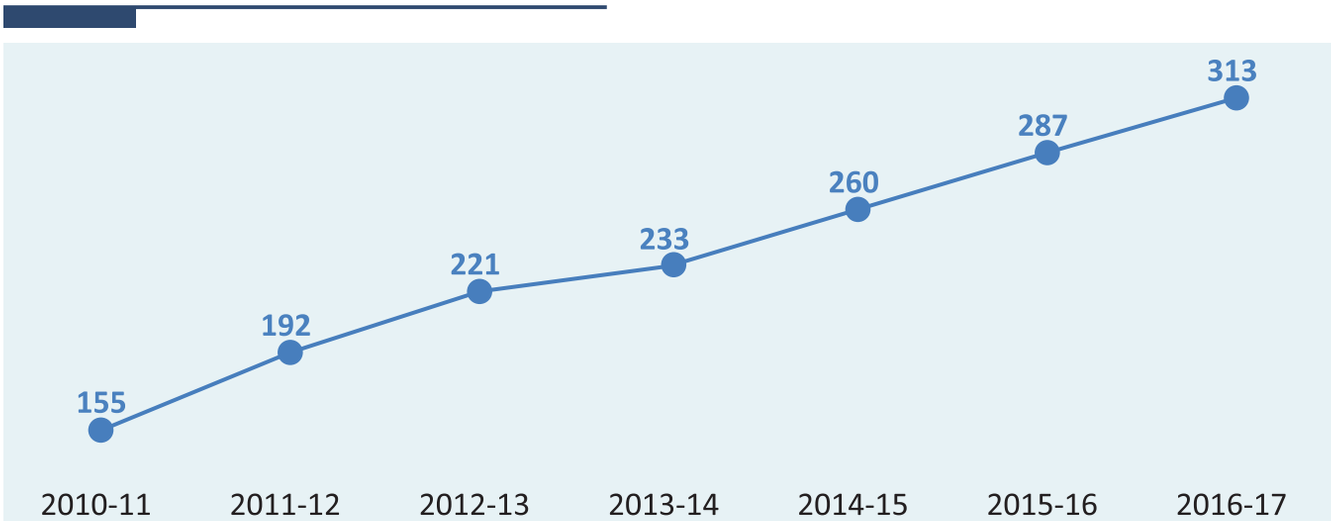
6.2.9 Financing Education

6.2.9.1 Overall Budget Allocations

The government of Pakistan has made promises, on more than one occasion, to spend a minimum of 4 percent of its GDP on education.[39] However, in the 2015-16 budget, the combined federal and provincial allocations constituted only 2.69 percent of the GDP. Punjab's expenditure on education is around 0.8 percent of GDP (was at 0.6 percent in 2000-01) while the overall education budget has been rising.

Since 2010 Punjab has doubled its education budget in absolute terms. This was required to implement Article 25-A in spirit. Much of what provinces allocate to education consists of funds Punjab receives from the centre. Alif Ailan has predicted that Punjab needs to spend at least Rs 470 billion if it is to contribute towards meeting the 4 percent GDP target.[40]

Figure 36: Punjab Education Budget over the Years (Billions)

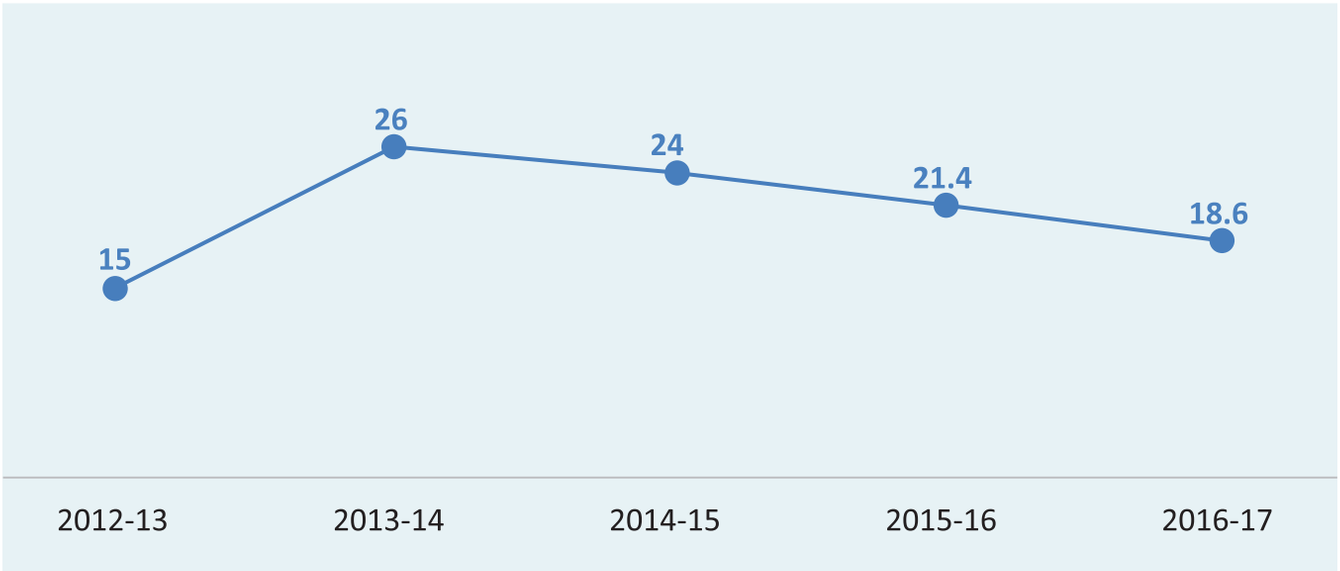


Source: I-SAPS

The share of education in Punjab's total budget has gone down (figure below). On average, however, Punjab allocates more than 20 percent of its total overall budget towards education exceeding UNESCO recommended budgetary share for education (which is a minimum of 20 percent).

[39]For a detailed discussion on this, see Alif Ailan 2015, Government Allocations for Education in Pakistan
[40]Calculations done in Alif Ailan 2015, Government Allocations for Education in Pakistan

Figure 37: Education as a Share of Total Budget

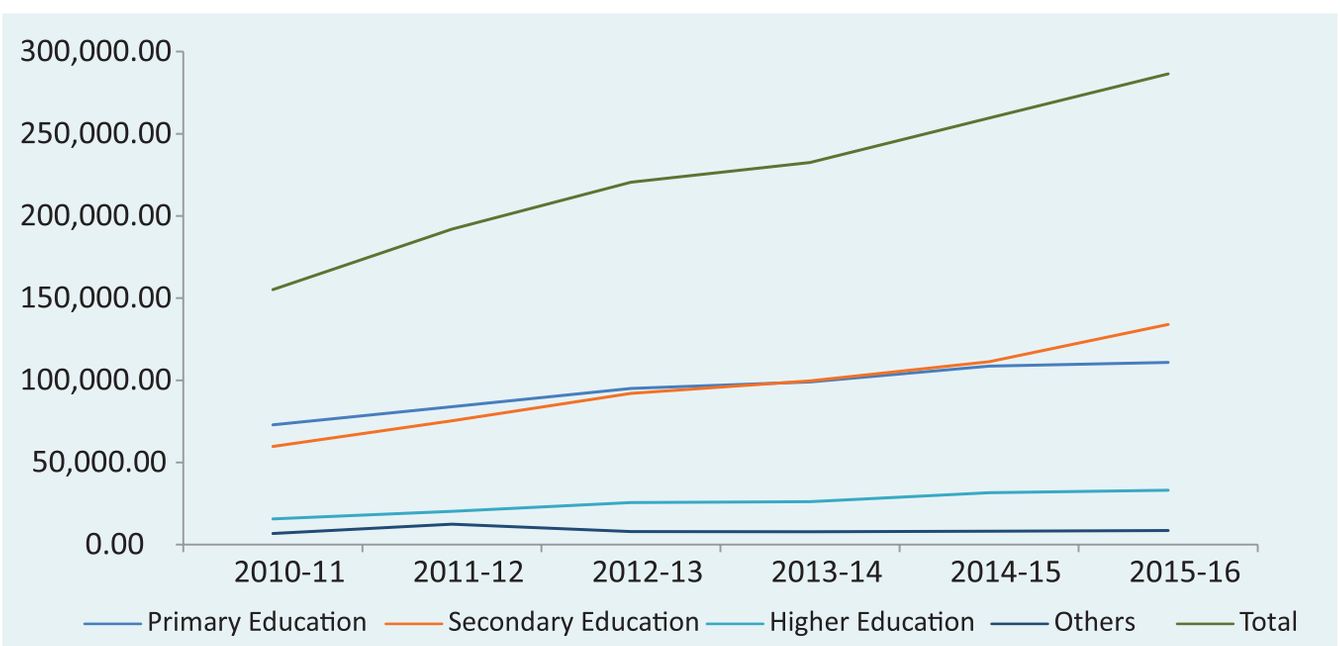


Source: I-SAPS

6.2.9.2 Functional Division of Budget

This division indicates the priority given to each sub-sector of the education sector. The highest share is of secondary education, followed by primary and at last higher education. Punjab has registered a decrease in the proportion of spending on primary education since 2010.

Figure 38: Budget Allocatons Across Levels of Education in Punjab (2010-16)



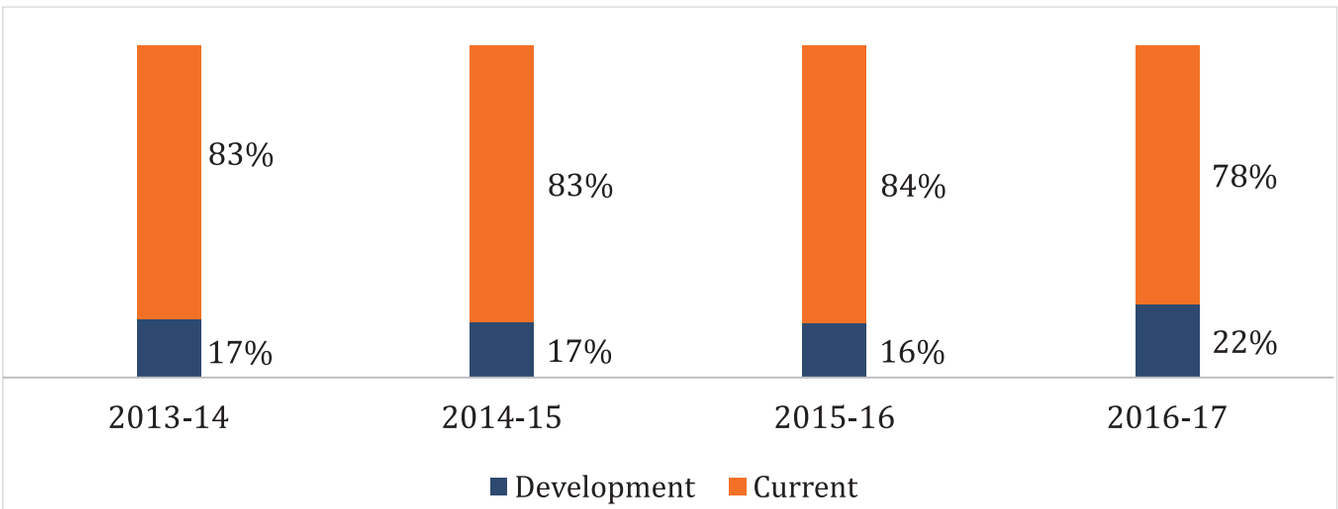
Source: SAPS Education

The share of school budget (primary and secondary) in 2016-17 is 85 percent. As part of the development budget, secondary education has the largest share at 75 percent, with only 3 percent for primary and around 21 percent for higher education. This trend has remained intact since the past seven years.

6.2.9.3 Current versus Development Budget

Development budget is spent on maintenance, improvement, and enlargement of the physical assets managed by the Education Departments. Historically, a major portion of the increase in the overall education budget is absorbed by current expenditure (of which salaries form a substantial part). In 2016-17, allocation to the development budget saw a massive jump of 43 percent from Rs 44 billion in 2015-16 to Rs 63 billion. Despite that, allocations to the current (non-development) budget was more than twice that of development budget and even as Punjab witnessed a negative percentage change in current budget allocations in 2016-17, it still remains very high.

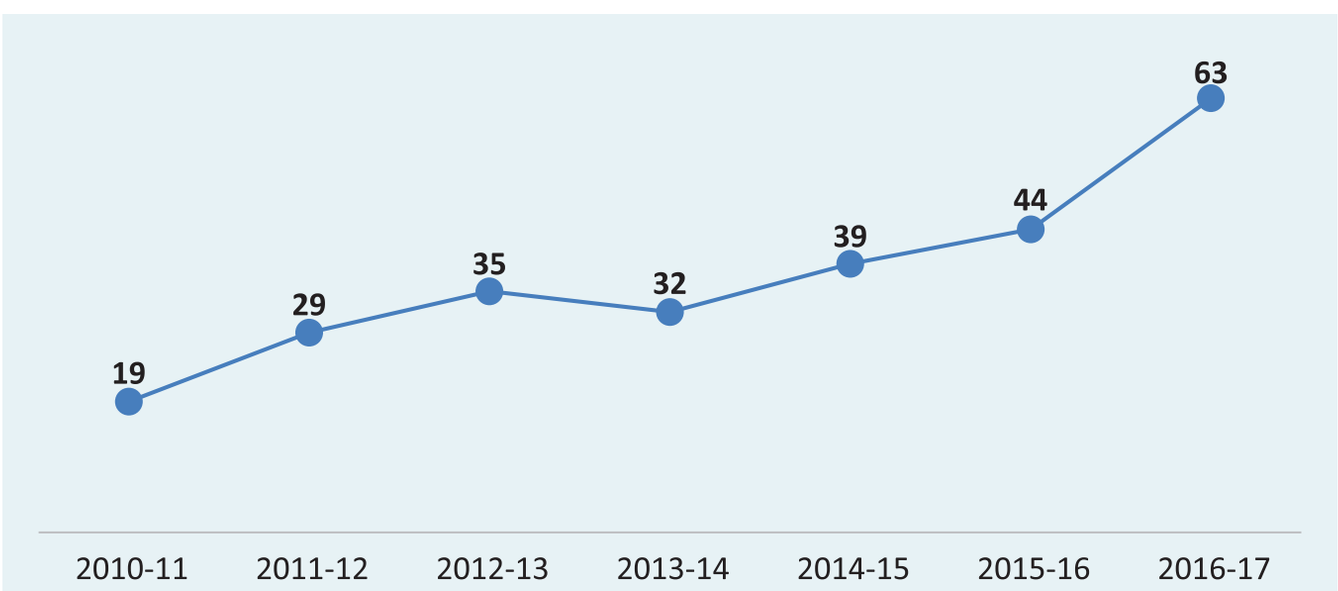
Figure 39: Provincial Budget (Development versus Current) for Education (Share)



Source: I-SAP

It is hoped that the increased developed budget will translate into more classrooms, facilities and better public school infrastructure if government ensures utilization.

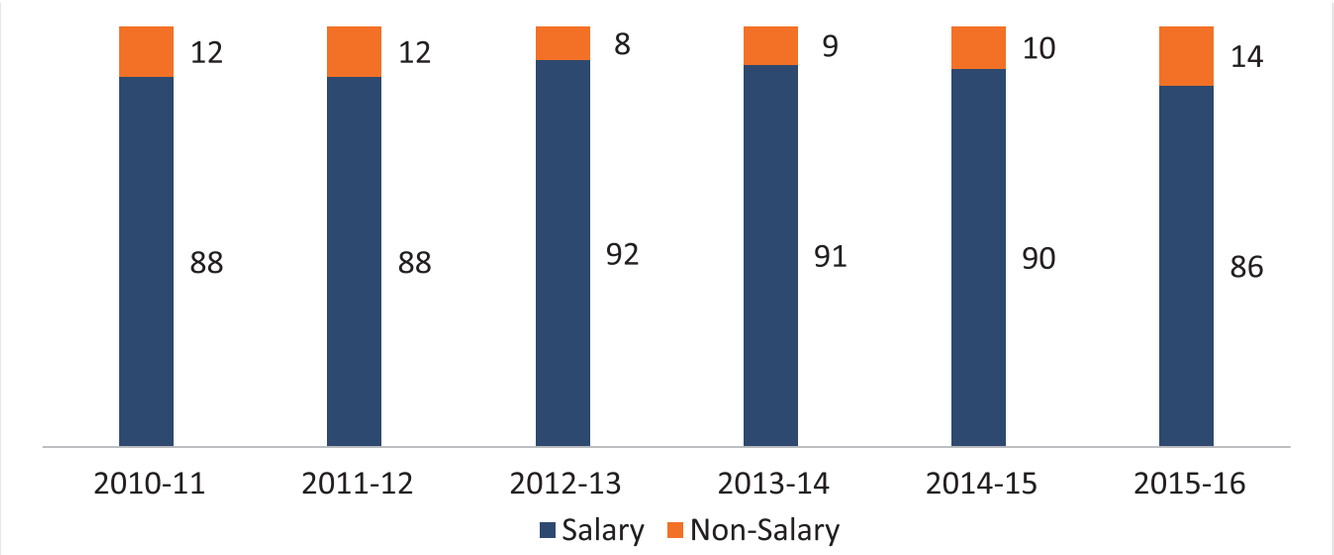
Figure 40: Education Development Budget over the years, Punjab (in Rs Billion)



Source: I-SAP

Close to 90 percent of the current budget is used for salaries while non-salary budget, needed for operational expenditure of schools, remains quite limited.

Figure 41: Current Budget (salary versus non-salary)for Education (%)



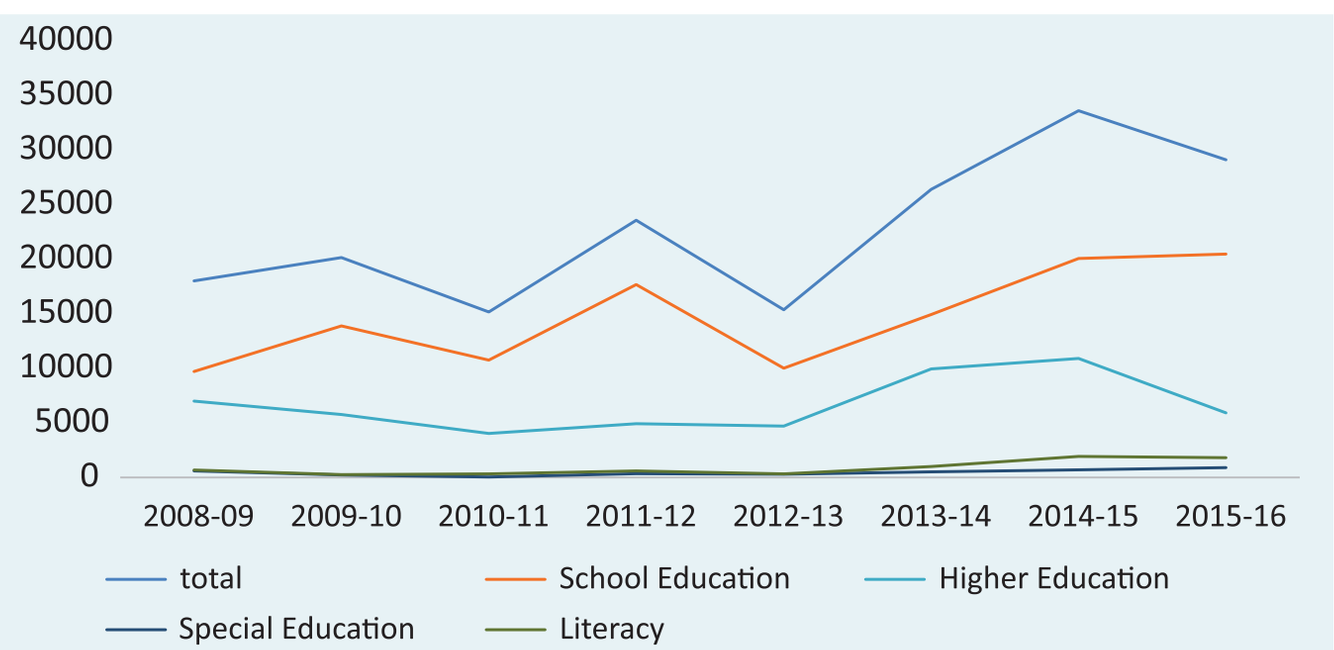
Source: I-SAPs, authors own calculations

6.2.9.4 Education budget post devolution

In order to be compliant with the requirement of Article 25-A, the required financial resources are estimated to be Rs.3387 billion for achieving 98 percent enrolment rate of 5-16 years of population by 2024-25.[41] It includes Rs.3023.78 billion current and Rs.363.26 billion development budgets.

A look at ADP figures show that development funding for education has been increasing since 2010-11 and has almost doubled since devolution.

Figure 42: Development Funding for Education (2008-16)



Source: P&DD ADP's various years

On average, a 15 percent annual increase over the previous years in education budget is required for achieving the targets under 25-A. The achievement of targets is closely linked with the resource absorptive capacity. This capacity deficit needs to be bridged to effectively manage the additional resources and to seize the opportunities available after the 18th Amendment.

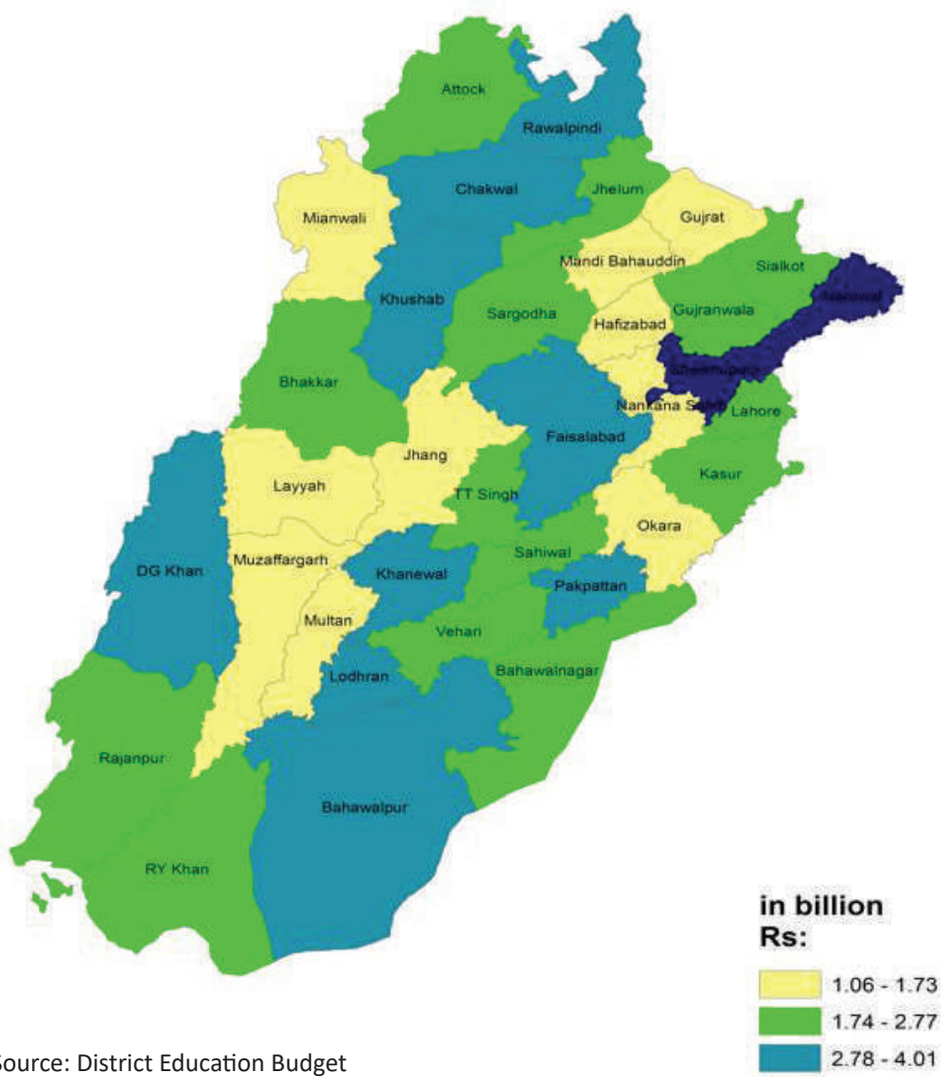
[41] I-SAPS - http://i-sapseducation.org/wp-content/uploads/2015/12/Punjab-Financial-Implications-of-Article-25-A.pdf

Provinces should make sector plans and come up with calculations to engage federal government and international partners for additional targets to achieve the target set in Article 25-A.

6.2.9.5 Trends in District Education Budget

A total budget allocation of Rs. 93 bn was made to districts in 2016-17 budget. District budget only comprises salary and non-salary expenditure on primary and secondary education. There is no mentionable amount of development budget allocations for districts as developmental works are handled at the provincial level.

Figure 43: Variation in Education Budget Expenditure 2014-15 at District Level

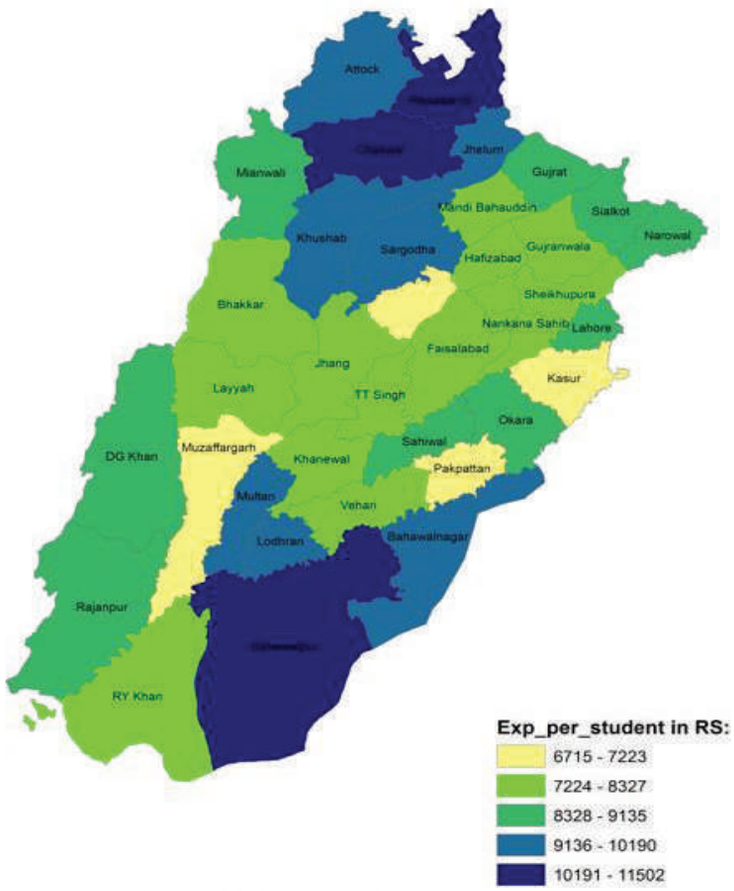


Source: District Education Budget

An analysis of the current budget allocation for the province in 2016-17 shows that some districts receive higher share of education budgets as compared with others.

As mentioned above, some of the districts are advantaged in terms of budget as compared to others. However, the additional allocation may be justified on grounds of higher enrolment in these districts. To address this, a better measure will be, the per student expenditure in the districts as it incorporates the number of students as well. Annual per student expenditure is the ratio of current budget expenditure during the year and the enrolment of the district in that year. The graph below shows that some districts in the south are spending the most per student, but this could also simply imply lower enrolment rates rather than higher overall expenditure.

Figure 44: Annual Per Student Budget 2016-17 at Distract Level, Punjab

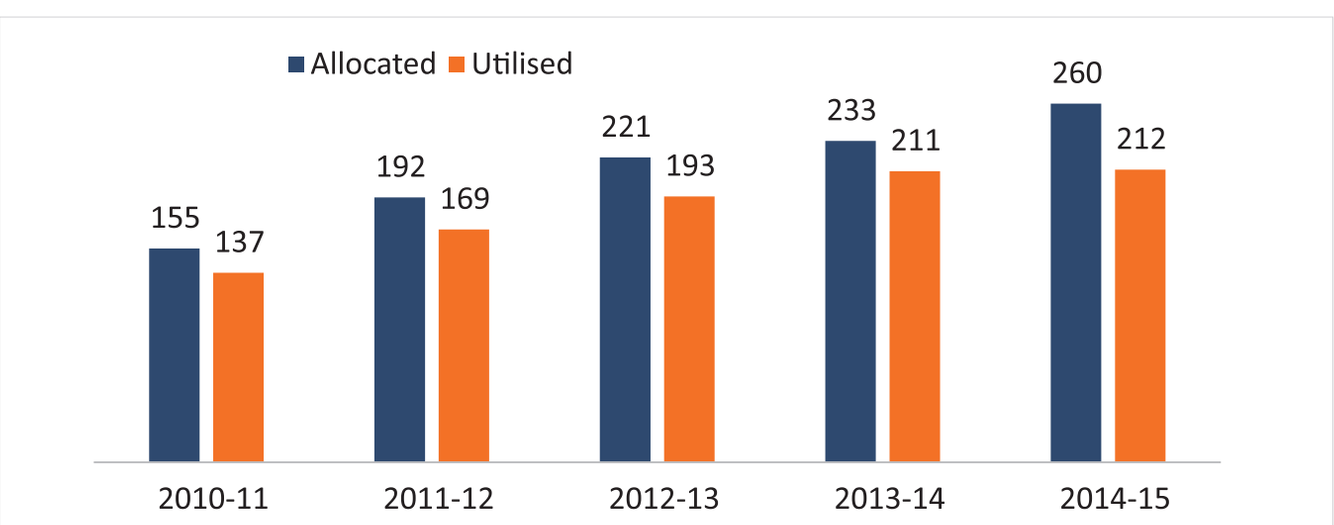


Source: School Census 2015 and District Budgets

6.2.9.6 Utilization of funds

Provinces do not necessarily spend the amounts they allocate in the budget. A major portion of the planned development budget for education is lost every year due to revisions in the budget, non-released funds and under-utilization of released funds. Budget tracking exercises over the past couple of years reveal patterns of under-spending for both recurrent and development expenditure in Punjab. The province spends around 80 percent of its allocated budget.

Figure 45: Allocated versus Unutilized Education Budget



Source: I-SAPS

6.2.9.7 Allocative Efficiency

Allocated vs Estimated costs

The budget allocated across different departments is not aligned to the estimated costs. Most of the budget is allocated to SED while the estimated cost of HED remains the highest – a trend that has continued since 2011. Budget allocations within sector should be made in proportion to the outlay of the departments.

Figure 46: Allocations Departments of the Education Sector 2011-12

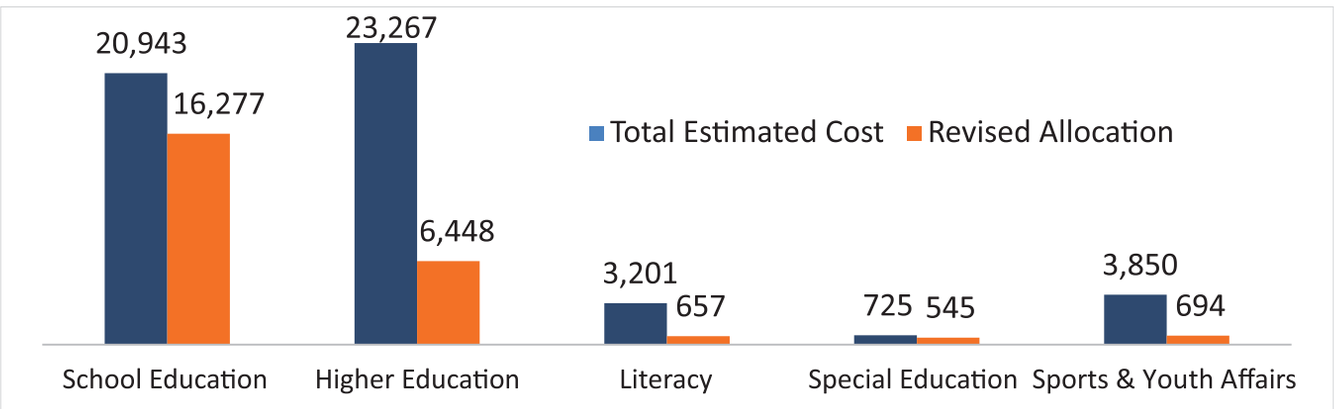
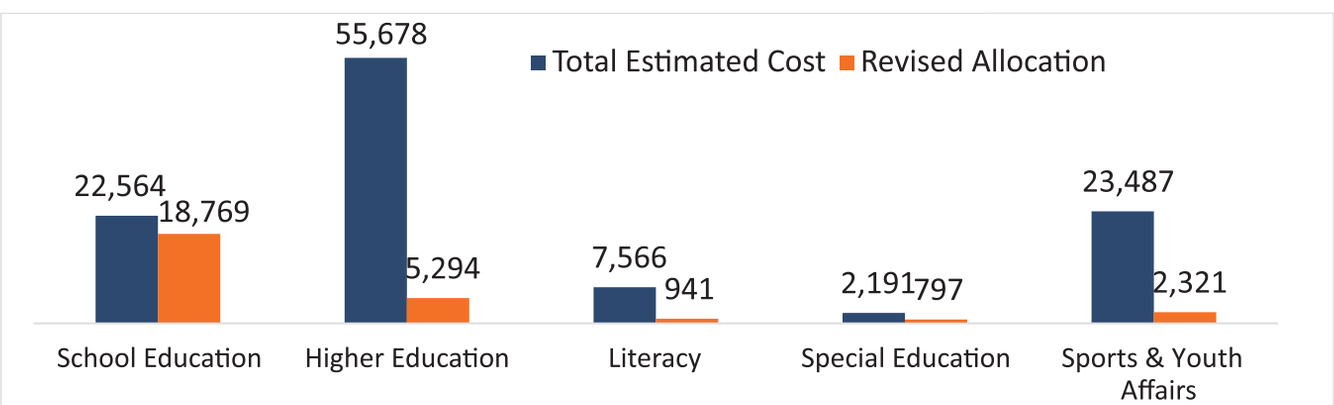


Figure 47: Allocations Departments of the Education Sector 2015-16

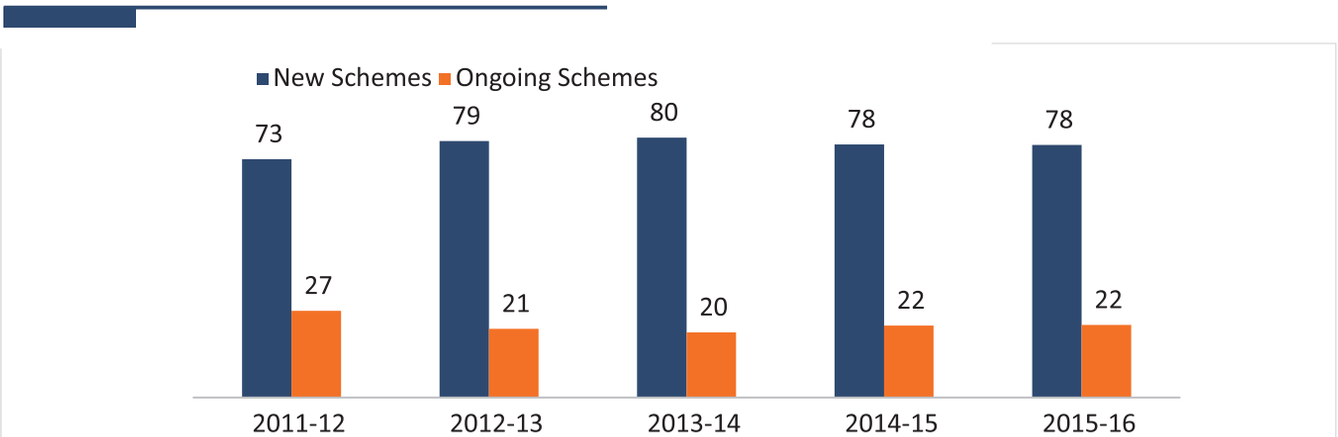


Source: Planning & Development Department, Government of Punjab

New versus on-going schemes

A major impact of the increase in new schemes is that the education sector does not follow allocative efficiency rules/ fiscal discipline. On average, allocation to new schemes is 78 percent with the rest for ongoing schemes against the optimal ratio of 60:40 (ongoing schemes: new schemes) necessary to maintain fiscal discipline.

Figure 48: Share of New and Ongoing Schemes in Total Revised ADP Allocations



Source: Planning & Development Department, Government of Punjab

6.2.9.8 The role of School Councils

School councils (SCs) play an important role in Punjab to improve service delivery at the school level. Establishment of SCs came in as an effort to devolve financial and administrative matters to the level of each government school. The idea of devolvement is simple and straightforward; the members of each SC, since they live in the neighbourhoods of their schools and their children are the main beneficiaries, are the primary stakeholders of the government schools. Since they have a large stake and are closely linked with these schools on a regular basis compared to any other stakeholder/ district government official, SC members are in a better position to judge the needs and priorities of the school's development. So, they are assigned through SCs, the task to plan the utilisation of the SC fund and spend the amount in a manner that is agreed upon at the regularly organized SC meetings. SC funds can mainly be utilized for any repair and maintenance work, health and hygiene related expenses and expenses incurred on the transport/ pick and drop of students.

Apart from district budgets, SCs in Punjab also receive funding through Non- Salary Budgeting (NSB) and Farog-e-Taleem Fund (FTF).

School councils in Punjab are allowed to establish FTF for their schools. It is financed through voluntary contributions from philanthropists, alumni, students and parents. All of the contributions are to be credited within a separately maintained bank account and the funds utilized as per the guidelines issued. Usually all the enrolled students also contribute to this fund at Rs. 20 per month. At least two members of a school council manage this bank account.

Most of schools in Punjab have active school councils that hold member meetings on a regular basis. Most schools receive SC funds by the end of the fiscal year. When used most of the funds are spent on new installations while rest (less than 50 percent) on repair and maintenance.[42]

6.2.10 Private Sector Engagement

Pakistan has many examples of excellence and innovations by public and private initiatives that can be used to improve around its education metrics within the 2016-30 timeframe. The Punjab Education Sector Plan identifies private sector engagement as an important strategy to promote the provinces educational goals. Some recent changes in private sector engagement in Punjab for education service delivery include a number of developments:

- Punjab Education Foundation (PEF) is reaching out to the private sector with public financing;
- PPP unit is working in Punjab, providing a legal umbrella to transparent procurements for co-sharing financing and management;
- There is a consistent move towards contracting private teachers via state hiring

Why PPPs in education?

- To increase the level of financial resources committed to public services such as basic education, and to provide better value for money.
- To allow governments to focus on those functions where they have comparative advantage (planning, policy, quality assurance, and curriculum development), whereas the private sector is in charge of service delivery.
- To allow for greater innovation by focusing on outputs and outcomes, rather than processes.
- To allow governments to bypass operating restrictions (restrictive employment laws and outdat ed government pay scales).
- To introduce competitive pressure on the provision of public services, and thus innovation and efficiency gain
- To allow governments to bypass operating restrictions (restrictive employment laws and outdat ed government pay scales).
- To introduce competitive pressure on the provision of public services, and thus innovation and efficiency gain

[42]PETs study by PCE for year 2015 and 2016

The Case of Punjab Education Foundation

The permanence of the Punjab Education Foundation (PEF) is bringing the private sector to the forefront as a leading provider of education services in Punjab.

PEF is an independent body with a focus on extremely poor families as recipients of education services while the private sector can be much more flexible about who it hires and can set up schools quickly in rented buildings and hire teachers from the local community. Today PEF manages voucher programs, helps establish community schools or low-cost private schools, and supports private sector school adoption of government schools and a range of interventions that involve the private sector. Some of its key initiatives include:

- Foundation Assisted Schools is a flagship program of PEF under which assistance is being provided to low fee private schools, through PPP, in the poor neighbourhoods and rural areas of Punjab. This program was incepted in 2005 with the ordinary outreach of 6 districts; however, FAS program has now been extended to all 36 districts of Punjab having 3,312 partner schools catering to the needs of more than 1,467,461 students.

- Education Voucher Scheme was launched in 2006 with the aim to provide financial assistance to the schools through issuance of vouchers after identification and registration of deserving children. Any child between the age of 6 and 16 years is eligible for this scheme. The children catered by EVS belong to less privileged areas / urban slums. Vouchers are provided to households to give them freedom of choice for selection of EVS partner school for their children. In a short span of time, within 10 years of its inception, EVS launched 14 expansion phases in 36 districts of Punjab and more than 310,918 children are registered under EVS program and getting free quality education in 1,370 partner schools. The program pays USD 7 per month per child at less than half the per child cost of government schools.

- New School Program (NSP) is an initiative of PEF that ensures access to schools in settlements where no formal schools exist within the radius of one kilometre having population of approximately 350 people. It was launched in 2008 by opening new schools in seven tehsils with low literacy rates having concentration of out of school children. Individual entrepreneurs and NGOs are encouraged to operationalize schools under this program after signing of agreements. Currently, 150,004 students are enrolled in 1,632 schools which are opened under NSP in all 36 districts of Punjab.

- Government of the Punjab through PEF has initiated and approved Public School Support Program (PSSP) to improve quality of education in low performing public schools. The program aims to provide free of cost quality education in existing public schools through involvement of private sector.

At present, Punjab Government has stopped building new government schools to achieve 100 percent enrolment targets by 2018. Funds are being funnelled to the private sector via PEF. In fact, the provincial government is contracting out thousands of schools to PEF under the PSSP while other schemes are helping entrepreneurs set up new schools especially in rural areas.

In this way, Punjab is able to effectively utilize the existing school infrastructure. Half of Punjab's publicly reported new enrolments in 2015 were in private schools. Early reports from 2,301 schools outsourced in first two phases suggest improvements in key input indicators. The phase I started since April 2016 saw a 77 percent increase in average enrolment per school. Phase II which is operation since September 2016 has seen an increase of 26 percent. The average number of teachers per school have also increased by 150 percent for phase I and 100 percent for phase II.[43] There has also been a reduction in multi-grading, increase in enrolment and improvement in students to teacher ratio.

[43]Post - PSSP data is of the month November 2016; PSSP and team analysis

Innovative examples of PPP initiatives from around the world

Models of innovative financing around the globe that involve the contracting of services and management in education include: Education Service Contracting and PPP for School Infrastructure in the Philippines; Universal Secondary Education in Uganda; Concession Schools in Bogota, Colombia; Independent Schools in Qatar; Contract Schools and Charter Schools in the United States; Khazanah Trust Schools in Malaysia; Private Finance Initiatives in the United Kingdom; Private School Finance in Australia, Canada and New Zealand; and the Build Transfer Lease Scheme in South Korea.

Cost-effective private service delivery has another successful PPP model in education vouchers. Examples include: the targeted voucher program in Colombia; voucher schemes in Chile and Qatar; private school subsidy programmes in Australia, Canada, Côte d'Ivoire, the Netherlands, New Zealand and Sweden; state tax credit programmes and the Milwaukee Parental Choice Program in the United States: the Senior Secondary Voucher Program in Rajasthan, India; and the Training Assistance Voucher Program in Lao PDR.

Other examples of PPP in policy, strategy and education support services are private sector school reviews in Abu Dhabi, Dubai, Thailand and the United Kingdom; private sector accreditation in the Philippines; and school testing services in the Philippines and the United States

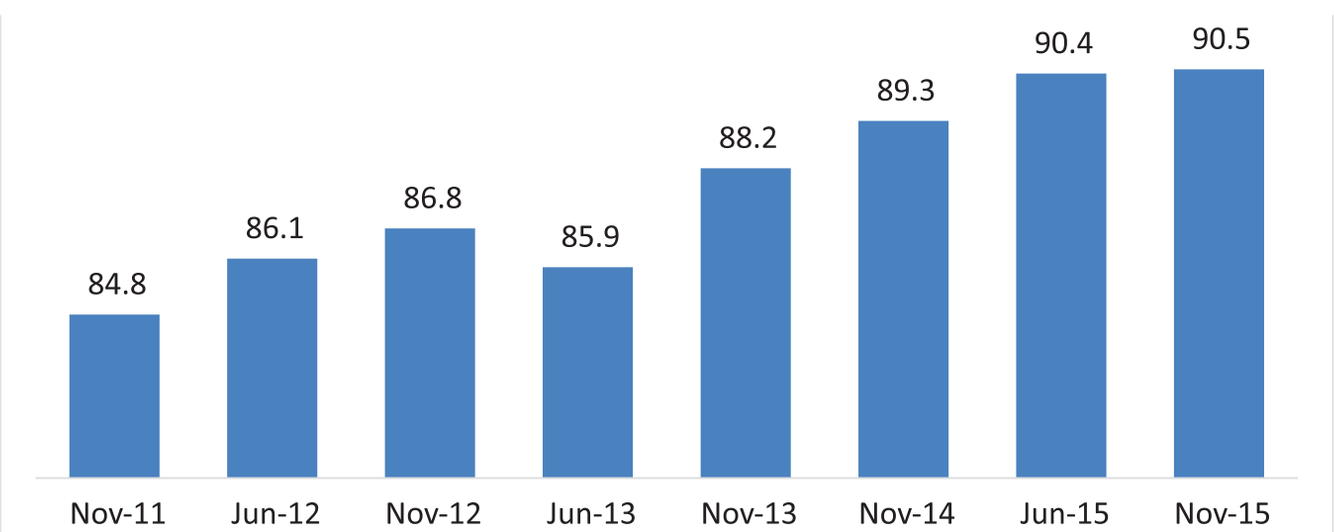
Source: http://www.cedol.org/wp-content/uploads/2013/09/Financing-education-PPP-Malik.pdf

6.2.11 Achievements

6.2.11.1 Participation, attendance and enrolment rates are improving

Against the target of 95 percent, Punjab's current participation rate stands at 90.5 percent which is a great improvement from under 85 percent in 2011. This includes both public and private schools.

Figure 49: Participation rate of 5 to 9 year old Children in Punjab, %



Source: SMU-Data from current Punjab Education Survey (conducted by Nielsen) iteration not yet available

Further breakdown reveals that student attendance and retention has increased for both primary and pre-primary well beyond the targets for 2016-17 (except pre-primary retention which is at 98.9 against the target of 99 percent). Government school month-on-month retention is also showing significant improvements. End of year retention loss has also reduced from 4 percent in 2015, to 1 percent in 2016.

Average daily attendance is also improving. Average daily primary attendance in government schools has increased from 86.1 percent in January 2012 to 91.9 percent by January 2017.

Overall by March 2017, 380,000 additional children were enrolled in government primary schools compared to last year.

Box: Examples of efforts to improve enrolment

Punjab Government's new program, 'Zevar-e-Taleem', intends to address the issue of lack of girls in secondary schools. The total worth of scholarships to be distributed under this program is Rs. 6 billion. The Punjab government is going to provide a monthly stipend of Rs. 1,000 (previously Rs 200) to girls that maintain more than 80 percent attendance throughout their study year. The stipulated amount can be extracted from any ATM or a registered franchise through Khidmat cards. It is thought that an estimated 460,000 girls are going to benefit from this program. Attendance will be recorded on tablets, verified by the IRIS scans. PITB pilot with 2,000 students is underway.

The government has also launched a child labour program under which 87000 children are enrolled through the Brick Kiln program, an increase of 31,000 children since July 2016.

PEF is also meeting its expansion targets. PEF is working towards achieving its 2017-2018 expansion targets by enrolling students under the 3 core PEF programs (foundation assisted schools, education voucher schemes, and new school's programs). Total enrolment in PEF schools has increased, from 0.9 million in 2011 to 2.2 million by December 2016.[44]

6.2.11.2 Early Childhood Education

School Education Department (SED) with the collaboration of, UNICEF, Plan International and Directorate of Staff Development, has started "Early Childhood Education Programme" in Punjab. During this programme, 2800 Schools have been converted into Child Friendly Schools through PC-I Phase-I and 2200 more schools will also be converted into Child Friendly Schools till March, 2017. In Phase-II in addition 5000 more schools will be converted into Child Friendly Schools till 2018 having ECE room and other facilities.

Each of these ECE classrooms has a dedicated teacher and a care-giver while the room comprises different corners such as language and literacy corner, mathematics, science, geography, art and activity corners. Establishing additional classrooms in public schools will also prove helpful vis-à-vis furthering the access of ECE opportunities across the province.

6.2.11.3 Improvements in Quality of Education

Key elements of the quality wheel have been put in place to reinforce teaching and learning through multiple reforms by introducing a **streamlined curriculum for Grade 1 to 8** - curriculum has been simplified and prioritized. High-quality teaching and learning materials across Grades 1-5 are being introduced, along with new, user-friendly textbooks for English, Urdu and Math. Teacher guides are also being aligned while over 80 modules have been developed and rolled out **an improved assessment system**: Record registration levels are being achieved in PEC and Matric exams. PEC exam has been strengthened and now independently audited by Price Water Coppers. Zero paper leakage has significantly reduced cheating. First ever independent Literacy and Numeracy assessment was launched. Approximately 300,000 students are being tested on tablets each month.

PEC registrations for Grade 5 public school students have increased by 88,000 while Grade 8 increased by 11,000 in 2017 compared to 2017 in both public and private schools.

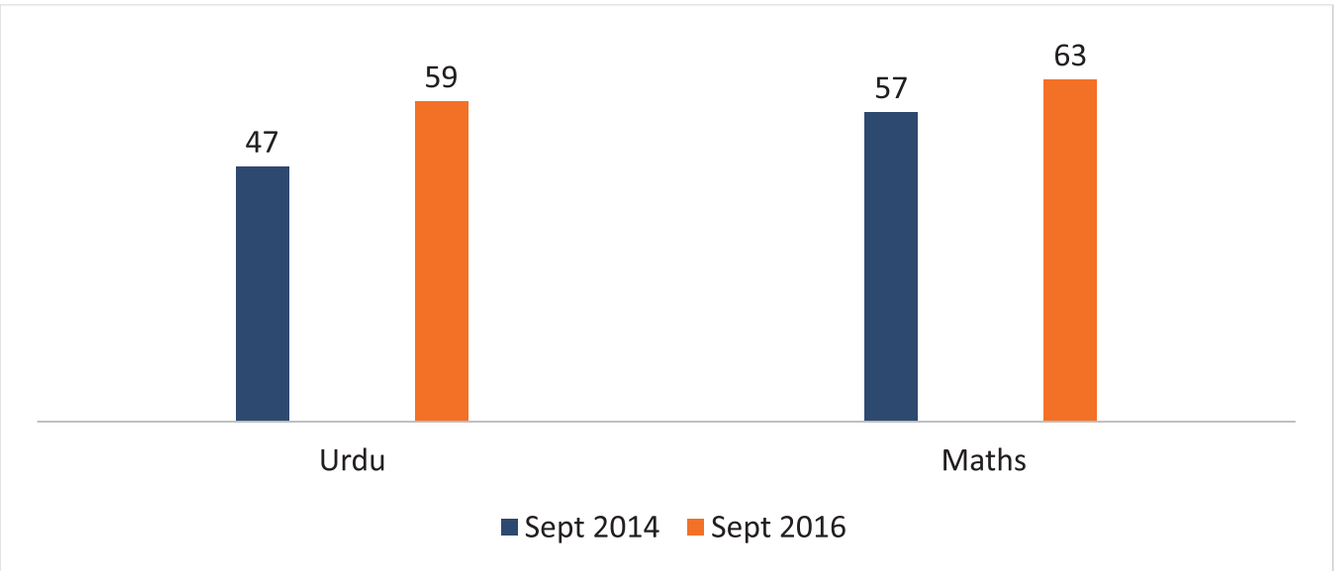
6.2.11.4 Improved Learning Outcomes

Primary school learning outcomes have improved. Independent Six Monthly Assessment results continue to show a year-on-year improvement overall. These assessment results, funded by DFID, are conducted on a random sample of 200+ government Schools on children in Grade 3, in English, Urdu, and Mathematics. Urdu and Mathematics are seeing

[44]PMIU student attendance and enrolment data, Punjab School Education Survey (Nov 2011, Nov 2015), PEF data

continuous improvement; however, improving English outcomes may take longer.

Figure 50: Average % of 6MA correct Answers by Grade 3 Students Punjab (2014, 2016)

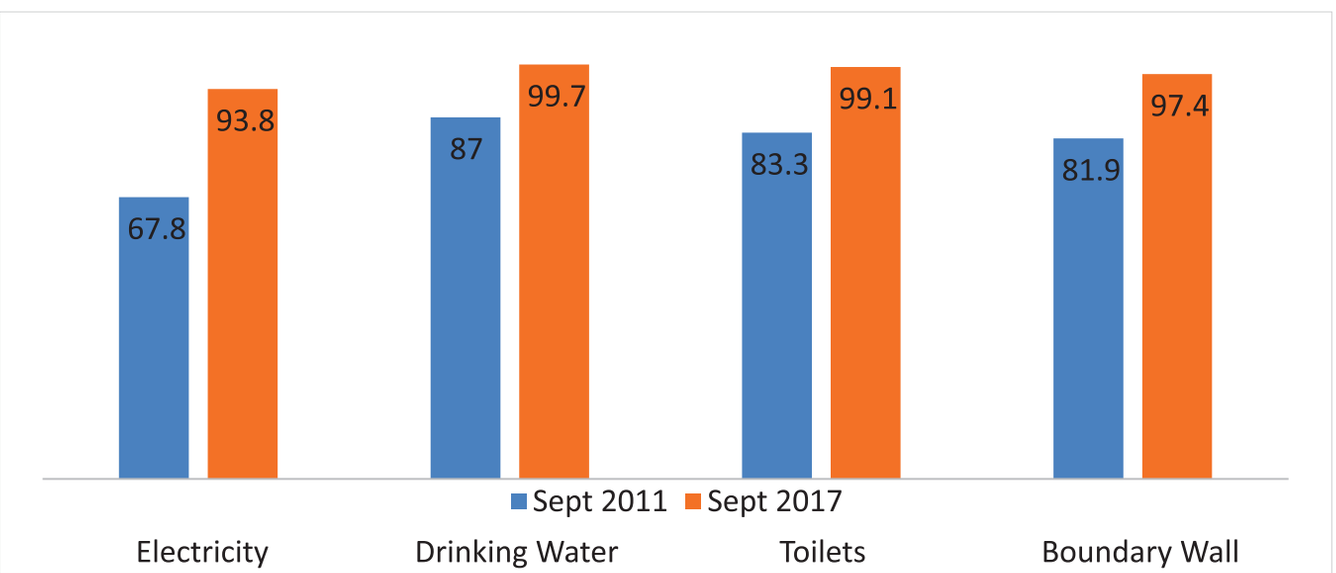


Source: 6 M A assessment results (Sept 2014, Sept 2016)

6.2.11.5 Improved school facilities

Percentage of schools with functioning facilities in terms of infrastructures has gone up. The School Education Department plans to build 36,302 classrooms in collaboration with DFID by 2018. DFID has completed 734 classrooms and work is ongoing for 950 classrooms.

Figure 51: Percentage of Schools in Punjab with Functioning Facilities



Source: PMIU data, SED, Roadmap analysis

6.2.11.6 Transparent Teacher Hiring

In 2011, a more robust teacher hiring system was introduced. The system used third party assessment through National Testing Service (NTS). It has now become an integral part of the hiring process as increased weightage is assigned to NTS scores. At the same time school specific recruitment has also been launched. Teacher hiring has also improved. Around 130,000 new teachers have been hired since 2011 using the new process. Approximately 80,000 teachers are being hired for the next academic year (2017-18).

6.2.11.7 Smart Monitoring of education service delivery

This initiative is part of the Open Data Strategy of Government of the Punjab. Monthly data for core indicators is collected through the government's Program Management & Implementation Unit (PMIU), and the data speed of collection ensures that it can be analysed by the senior most officials and sent back into the districts to show which schools have met or missed their targets.

Punjab employs 950 monitoring officers across the Province. These officers act as an independent school monitoring layer for the Government and are tasked with making spot-visits to its 52,695 public schools across the Punjab, each month.[45] These field officers, known as Monitoring and Evaluation Assistants (MEAs), visit the public schools across Punjab, every month, and report key stats including student enrolment, teacher presence, and the availability of utilities, at the time of the visit.

In an effort to maintain fairness and to discourage collusion, district monitoring officers and PMIU re-assigns and shuffles schools to be visited by each MEA during different months. PMIU also regularly communicates with its field staff to ensure adherence to assigned schedules.

In August 2014, PMIU and the School Education Department worked with PITB to equip MEAs with SIM-enabled tablet-PCs, allowing them to digitally submit forms in real-time, during their spot visits to schools. Tablet-PCs (with the school monitoring software application) have been provisioned for PMIUs 950 monitoring officers across all 36 districts of Punjab.

This measure has helped reduce data-entry time and has made data acquisition less error-prone due to built-in validation checks. MEAs also submit pictorial evidence related to their school visits, via the tablet-PC application.

6.2.11.8 Data collection

The Punjab Government is recognizing that data – especially real-time data –offers a huge opportunity to transform services for the better. In 2014, the Chief Minister created the Special Monitoring Unit (SMU) as a delivery unit residing in his office. Among other priorities, SMU's key role has been to drive reforms in education, health, clean drinking water and sanitation. It also collaborates with the Punjab Information Technology Board to design and build state of the art technology to collect data and track progress in each of the reforms.

Public access to PMIU data is also available online for free. Provincial and district level summaries are computed automatically based on data from actual forms submitted by the monitoring officers. Website visitors can navigate their way down to the actual forms submitted by the monitoring officers.

The Punjab government has decided to carry out a census of all private schools in the province. Private schools as all those registered, unregistered, private, not-for-profit schools, government and semi-government schools under the control of any federal ministry or provincial departments other than the SED working in the Punjab Road Map Approach.

In 2011, with the support of Sir Michael Barber, Punjab government launched an Education Reform Road Map, focusing on specific areas with the potential to transform education standards and unlock potential for millions of children, including those most marginalised and from the poorest backgrounds.

6.2.11.9 Needs based Budgeting

Previously, schools in Punjab, like in all other provinces, got their annual funds as school council grants only, a fixed amount irrespective of enrolment and school needs.

The program allocates non-salary funds to school is based on a need-based formula incorporating specific school and pupil level characteristics. It started by a block allocation of Rs 3.5 billion in nine pilot districts (one from each division in Punjab)[46], compared to Rs 2.2 billion allocated in 2011-12. This was then expanded to Rs 32.72 billion for all districts in Punjab in 2015-16.[47]

[45]https://www.pitb.gov.pk/sms
[46]Punjab Education Sector Reform Programme (http://www.pesrp.edu.pk/pages/Non-Salary-Budget)
[47]I-SAP

It is envisaged that by giving schools adequate funding, and by making them responsible and accountable for planning, managing and administering these funds, it will empower and incentivize schools to use their NSB to improve the teaching and learning process and at the same time discourage dropouts and enhance retention.

6.2.11.10 Punjab Education Endowment Fund

PEEF, established in 2008, provides scholarship stipend to selected high performing students of Secondary, Intermediate and Punjab Board of Technical Education and Graduation students. Support is also provided at Master level and Centre of Excellence (COE's) scholars in the form of fee sharing. PEEF has completed its seven successful years in scholarship/financial aid provision to the talented and needy students of Punjab.

The company started its operations in 2009 with an initial endowment of one billion rupees which has been increased to fourteen billion rupees. Investment proceeds of this endowment are utilized to achieve the objectives for which PEEF was established. So far, it has awarded more than 150,000 (one hundred fifty thousand) scholarships worth more than seven billion rupees. About 33 percent of the total students, who have been awarded scholarships by PEEF, have completed their certificate/degree program. In this way, around 67 percent students are still in the process of completing their certificate/degree.[48]

6.2.12 Key Challenges

Despite gains in the past decade, the situation in the education sector leaves much to be desired. Even with the rise in school attendance and the improvements in the literacy rate, the fact remains that nearly 22 percent of the age group 5 to 9 years is not enrolled in schools while more than 11 million children between the ages of 3 to 17 are out of school. Overall literacy rate for males and females combined still hovers at about the 63 percent level (much below the world average of 84 percent as recorded in 2010). Here is a recap of the key challenges being faced by the education sector in Punjab.

Lack of holistic overview: To cater to the schooling needs of all the children between the ages of 5 to 16 years, under article 25-a, schooling facilities need to be made available at all levels - primary, middle and high. This is a critical component of transition from the primary-level focus of the MDGs, to the more holistic SDGs. In Punjab, however, over 70 percent of the schools are primary, and enrolments drop drastically. Hence, Punjab is catering to a limited number of children beyond primary. Enrolment drops drastically after the primary level but more steeply so in the case of girls.

Regional Disparities: Even though Punjab fares well compared to other provinces, provincial statistics on education mask considerable regional disparities. Alif Ailan rankings, based on government data[49], confirm that wide inter district variations are pulling down Punjab's overall annual rankings. A key challenge therefore, is for the government to breakthrough these disparities, basing allocations on needs of each constituency. Improvements in the high-ranking districts have pulled up Punjab's overall performance but a number of districts from Punjab are also witnessing a decline in their education performance. Districts with lowest gender parity in number of schools, teachers and enrolment are all from South Punjab: Dera Ghazi Khan, Muzaffargarh and Rajanpur.

Poor learning outcomes: Learning levels are low and equity of outcomes is poor with considerable variation in school effectiveness across the province. Evidence from learning assessments indicates that government's effort and resources are leading to improved learning but there is still much to do to raise standards. School efficiency has improved across the province with high levels of teacher and student attendance. However, there remains a need for more and better teachers who can deliver learning gains for children and better school leaders and administrators who can improve the effectiveness of schools by making use of the increased range of performance data and resources that are now available. This is particularly important following the creation of District Education Authorities.

Lack of focus on Early Childhood Education: ECE remains critical to ensuring universal primary enrolment and improved retention in schools. Children that do not have good experience at early childhood education are more likely to drop out at very early years of schooling or show minimal achievement. But there is no separate allocation of teachers for pre-primary education in the public sector.

Dip in lower secondary schools for girls: While almost all tiers of schools in Punjab have a higher number of girls' schools, this trend is reversed in the case of secondary schools. In 2015-16, the number of student dropouts from Grade

[48]https://www.pitb.gov.pk/sms
[49]NEMIS data (Pakistan Education Statistics)

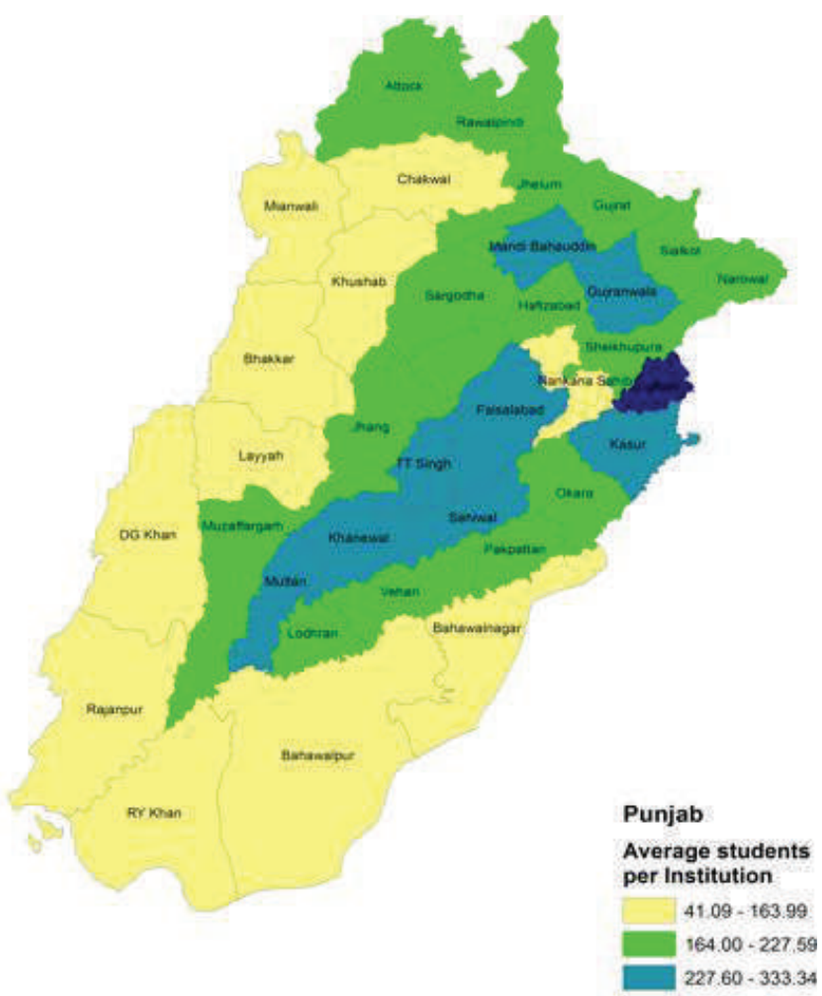
9 to Grade 10 was 153,493, out of which 43,763 (28.5 percent) were girls and 109,730 (71.5 percent) were boys.[50] The unavailability of schools could be one of the factors contributing to high dropout rates at this level and indicates the need to increase the number of secondary schools, especially for girls.

Lack of focus on Higher Education: Reforms for Higher Education in Punjab are not embedded in any clear policy. The only applicable policy framework is the National Education policy of 2009.

- The department has not developed a sector plan to give direction and set targets.
- There is lack of clarity between the higher education department and the provincial higher education commission in terms of where they get their policy directives from.
- Teacher quality is deteriorating with very little emphasis on teacher trainings.
- Curriculum is not linked to providing access to the job market.

school levels.[51] Ideally, on average, there should be 40 students in a primary school classroom. This requires a total enrolment of 200 students per school. A school with fewer than 100 students is considered under-utilized.[52]

Figure 52: Students per Institution (district wise) Punjab



Source: School Census 2015

Girls' schools used less efficiently: Schools catering specifically to girls are used less intensively than those for males. For example, while the average number of students in all-girl schools in 2015-16 was 130.78 (up from 103 in 2005-06), it was lower than the average of 148.79 (up from 128 in 2005-06) for males.[53] This difference was wider than the difference in the size of the two types of schools, and suggests that female enrolment could be significantly increased without incurring additional construction costs. The number of non-functional schools (although less than 1 percent of all schools) is also higher for girls (67) than boys (35).

[50]Gender MIS, Punjab
[51]Authors calculations based on data from Pakistan Education Statistics 2013 2015-16 accessed from http://library.aepam.edu.pk/-Books/Pakistan%20Education%20Statistics%202015-16.pdf
[52]UNICEF, SITAN 2012
[53]Information extracted for Pakistan Education Statistics 2015-16

Meeting SDGS: Currently, Punjab lacks data on several of the indicators required to measure progress for education targets. With timely and comprehensive data collection at the district level an accurate picture of the quality of education on the ground can be established and planning and implementation can be placed in the local context and progress can be effectively monitored over time. This approach also underpins the roadmap approach and governments are gearing up for. For some indicators raw data is available but the value of the indicator is not calculated while for others primary data is not collected at all.

Weak monetary incentives for teachers: Low-fee schools, currently, have a cost advantage over public schools. But this advantage is largely driven by the difference in teachers' salaries. The minimum wage law does not apply to teachers in the private sector, as some don't consider it a full time profession. Although provincial legislation covers teachers, Punjab does not want to implement the law. Even in the case of Punjab Education Foundation-assisted schools, the PEF and Punjab government do not want to implement the minimum wage legislation for teachers.

No progress on RTE Laws: Like previous years, no major intervention was witnessed by the provincial governments in Pakistan vis-à-vis the implementation of right to education (RTE) laws during year 2016. And this is despite the concern expressed by a UN body, Committee on the Rights of the Child (CRC), in May 2016 this year.

Inclusive Education: Data collected by AEPAM does not include information on special education centres, students and teachers and related infrastructural provisions. Research has found that focusing on disabled children can really help boost enrolment, it is often the last 15 to 20 percent of the marginalised children that are hardest to get in.[54] One hypothesis is that these are children who are especially marginalized by disability, children who can't be reached with typical enrolment drive incentives. The biggest gaps emerge for data on disability (inside and outside classrooms), information on teachers' attitudes (regarding children with disabilities, those from poor backgrounds and slow learners), their level of preparedness for identifying and managing diversity in classrooms and the practices they undertake. Local education departments currently do not track children at risk of dropping out or those who need special attention in schools. A mechanism for systematic identification of learning challenges and other disabilities at scale is currently not in place.

Roadmaps overlook quality: The road map approach, it seems, only offers a partial solution to a complex set of challenges. Punjab's salary budget has gone up by 74 percent since 2010 but there has only been a 7 percent increase in test scores.[55] The targets set often focus on short-term results and do not necessarily have a direct link with quality of services provided. While the road maps aim at tracking performance of teachers, their promotions and salaries are still being managed through routine, seniority-based criteria with fixed salary increments.

Unemployment remains high: Skill concentration in the education system does not match the demands of the market place. The consequent creation of an educated but unemployed labour force is not only a human tragedy, but also a waste of resources, as the resources devoted to education will not have translated into increases in GDP and higher standards of living.

Increase in budgetary allocations not congruent with rise in educational outcomes: Budgetary allocations are increasing and should help address some of the problems in the sector; however, higher financial allocations in themselves are unlikely to provide a complete solution. The benefits of increased budgetary allocation have primarily been concentrated in primary schools, which have experienced a marked increase in enrolment rates. Since the government is concerned with the output rather than the input, it will have to supplement the expenditures with policy measures that will enable higher spending on education to produce the benefits, in the form of better learning outcomes that are desired by the Punjab's citizens.

6.2.13 Policy Interventions

Aligning the priorities and integrated the strengths of all key stakeholders: The Government of Punjab has a large public education infrastructure, with provincial teacher training, examination and monitoring institutions, but they all work independently, with limited coordination. Creation of synergies between all government and development partners working on education reform in Punjab will be essential to drive change. One way to do this would be to introduce a set

[54]https://www.opensocietyfoundations.org/voices/stabilizing-power-school-children-disabilities-pakistan - The Institute of Development and Economic Alternatives, in collaboration with experts at the University of Cambridge, is undertaking research to identify different forms of marginalization that affect the life-chances of children in rural areas. Though the work is still underway, preliminary results show that, of 1,549 children aged eight to twelve in three rural districts of Punjab, 495 report some form of physical, mental, or cognitive challenge, a significant number of these falling into the low- or medium-challenge categories.

[55]I-SAPS budget financing reports

of mutually determined and reinforcing goals to transform the quality of education in the medium term where the government drives the reform agenda but with the help of its partners that include key departments, private development partners, and civil society organizations. The roadmap approach and the Growth Strategy help to provide the same metrics to track progress and are constantly used as a basis to evaluate and improving their service delivery. A continuation of this process will be key.

Increase enrolment: UNDP projects that if Pakistan continues the current growth in primary enrolment rates at 1 percent per year (higher than usual) it will only be able to achieve universal primary education by 2076[56] and if the federal and provincial governments raise enrolment rates by 60 percent, then it would take 2050 to put every child in school.[57] If Pakistan wants to witness 100 percent primary enrolment by 2030, it will have to increase its rate of enrolment by four times it current level. In addition, non-formal schooling is a good way to target females for education as is increasing the number of secondary schools where their enrolment drops.

Focusing on those at risk of dropping out: While the government should be concerned about those that are not going to school at all, it must also pay attention to those that are at risk of dropping out. Overage students belong to category of children at risk. PSLM 2014-15 data indicates that many children aged 6 to 9 are enrolled in pre-primary.[58] Alarmingly almost 35 percent of 11-year-olds and 13.4 percent of 12-year-olds are attending primary school. Data are required for understanding who is benefiting, who is excluded, links between teaching, learning and disadvantage and ways in which reforms impact classrooms, schools and communities. Children from poor households – particularly girls from poor households – and children with disabilities are much more likely to be at risk of dropping out or never entering school at all.

Embed the use of credible, real time, actionable intelligence to drive reform: The silver lining is that policy makers today see the benefits of having information available to them for planning and policy design. They are keen to, and in some ways, they have already, put in place mechanisms that make available data on enrolment, teacher attendance, student attendance, school expenditures, etc. Digital dashboards highlighting key indicators and road maps tracking progress across regions are examples of such mechanisms. However, steps can be taken to improve the effectiveness of these foundational measures. Chief among them are: 1) ensuring the right indicators are tracked, 2) data are being utilized by empowered local agents, rather than being retained centrally, and c) data help form a feedback loop between policy and practice, rather than being used exclusively for high-stakes assessments (when teachers' promotions and appraisals are linked to trends in enrolments and assessments).

Restructuring Assessments: They can be restructured to track improvements in the same children over time. Information on teacher attitudes and practices, as well as the challenges they face, can inform the design and focus of support mechanisms (such as in-service training and school resource decisions). Internationally developed and validated survey modules that help identify the nature and severity of disability for all children in and out of school can provide accurate numbers for planning.

Improve teacher hiring: Firstly, the government should make a procedure to select good teachers and establish teachers training academy. For example, the PHEC Staff Development Academy is being established and Rs 176 million has been allocated to it in the current budget. Secondly, every selected teacher must undergo a rigorous training for six to nine months before starting actual teaching. However, the duration of training and the courses can be decided after consultation with experts. Lastly, it should be accepted that a fair chance of upward mobility and reasonable salary packages are not luxuries but essential requirements of a decent career. It is how the Punjab HED can hire, train and retain good teachers and resultantly provide quality teaching – a prerequisite for quality education.

Needs based budgeting: Despite the need, some districts are hugely disadvantaged in terms of budgets allocated to them. It is essential that need-based budgeting be undertaken in the province where allocations should be based on actual needs of the districts. Non-salary budget is essential for meeting day-to-day expenses of schools. Currently the allocated funds for this budget line are scant compared with the allocated budget for salary budget. Sufficient non-salary budget in the range of 20-25 of the recurrent budget should be allocated in order to fulfil the needs of the schools.
Informing PPP's feasibility via evidence: Do Public Private Partnerships in Education ensure equity, quality and access? The major reason for the afore-mentioned question cannot be adequately answered because of a lack of evidence to

[56]http://tribune.com.pk/story/1161257/youth-empowerment-investment-youth-essential-reap-benefits/
[57]http://www.brecorder.com/br-research/999:all/6921:youth-crisis/?date=2016-09-05
[58]Some 11.1 percent of six-year-olds, 3.3 percent of seven-year-olds, 0.9 percent of eight-year-olds and 1.8 percent of nine-year-olds are enrolled in pre-primary

initiate a relevant debate on PPP.

Leverage partnerships: Punjab must leverage innovative partnerships with the private and civil society sectors to enrol and retain children who are the most unlikely to go to school because of supply side constraints, demand side barriers, or disabilities. Innovative public-private partnerships and public-community partnerships should target children who were previously marginalized, and help these students stay in school.

Develop sector plan for higher education: To bring focus to the resources allocated for higher education and transform the sector to align it to the needs of the market and the skill set required by the youth, a dedicated 3-5 year sector plan must be developed.

Linking education institutions to market: This calls for synergies between higher education and technical training. The link between employability and graduation can only be strengthened if there is collaboration between TEVTA and HED on devising curriculums in sync with industries demands. The completely parallel streams of education end up producing graduates that are unable to find gainful employment, while TEVTA remains unsuccessful in meeting the demand of the industry for skilled workers.

Realigning Policies to SDGs: A review of the progress on MDGs portrays policy misalignment with the desired outcomes. In order to close the gap between the desired and achieved outcomes by 2030, the education policies must be aligned to the targets outlined in the SDGs for education. This should be done in consultation with all the stakeholders including the civil society. Quality has to be the main driver of any realignment if Punjab is to achieve education-related SDGs. The policy commitment needs to be matched with required funds and the implementation processes.

- Recalibrating Education Sector Plans: The current one expires in 2017. The new one should clearly be aligned to meeting the targets
- Recalculating the finances
- Responsive Monitoring and Evaluation - A robust global framework for development can only be successful if national evaluation capacities exist and function effectively and efficiently. Monitoring and evaluation of the progress against the outlined targets should be undertaken by the government and also relevant 'internationally comparable' data should be made available to all to inform policies and practices. Any off-track targets should be revisited and realigned during the course of the SDG period based on the qualitative and quantitative data collection

Improve data collection to measure progress on SDGs: Based on the SDG indicators for education, following are a list of indicators against which new data or indicators need to be generated.

Box: Data for SDG

Raw data available, but value not calculated:

- GIR to Class 5 and 8, completion rate of primary, middle, higher and higher secondary education,
- overage children in primary and middle school,
- GER for tertiary education, participation rate in technical-vocational education programmes (15 to 24 year olds),
- Percentage of youth and adults proficient in literacy skills, Percentage of youth and adults proficient in literacy skills,
- Number of higher education scholarships awarded by beneficiary country,
- Volume of official development assistance (ODA) flows for higher education,
- Percentage of teachers qualified and trained according to national standards (by level),
- Percentage of teachers receiving in-service training

No data is collected

- Percentage of children under 5 who are developmentally on track in learning and psycho-social well-being,
- Percentage of children under 5 experiencing responsive and stimulating parenting,
- Participation rate in organized learning (from 24 months to official primary school entry age),
- Participation rate of adults in formal and non-formal education and training,
- Percentage of youth and adults with ICT skills by type of skills,
- Percentage of students in primary education whose mother tongue is the language of instruction,
- Percentage of total education expenditure borne by households,
- Participation rate of illiterate adults in literacy programs,

Lack of policy:

- free pre-primary education guaranteed in legal frameworks,
- compulsory pre-primary education guaranteed in legal frameworks,
- Explicit formula-based policy reallocating education resources to disadvantaged populations