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Jamal, Haroon

Social Policy and Development Centre

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*Draft Research Report*

**Exploring the Trend in Pakistan Educational Status:2005-2020**

*Haroon Jamal*

**Social Policy and Development Centre (SPDC)  
Karachi**

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## **Exploring the Trend in Pakistan Educational Status:2005-2020**

### **Abstract**

The purpose of this research is to highlight the trend in educational status of Pakistan which is represented through five indicators related to access to schooling and educational achievements. In terms of access to schooling two indicators are used: pre-primary enrollment and out of school children in the age cohorts 5-16 years, while to monitor educational achievement, overall and youth literacy rates and proportion of population with tertiary education are considered.

Household data of five waves of nationally representative Pakistan Social and Living-Standard Measurement (PSLM) surveys is used in estimating educational indicators for the period 2005 to 2020.

To summarize the status and growth in the indicators of educational performance, non-compensatory composite indices are developed. The methodology of these indices ensures that all indicators have same importance and a full compensation among them is not allowed.

The results of this exercise broadly indicate very low or almost stagnant growth in the indicators of educational status during the period 2005 and 2020.

JEL Classification: I21, I28

Keywords: Education, Pakistan, Non-compensatory Composite Indices

## 1. Preamble

Education in Pakistan is suffering from myriad issues including low levels of public spending, alarming rate of out-of-school children, high dropout rates from the schooling system, and more importantly gender and acute regional inequalities. In terms of quality, issues and challenges of the education system include widespread teacher absenteeism, a weak management and supervision structure, shortage of trained and qualified teachers especially female teachers, a lack of dedication, motivation, and interest of teachers in their profession and a lack of physical facilities. These quality features are more pertinent in public schooling in which about 50 to 60 percent of the country's children are enrolled. Moreover, curriculum is mostly outdated and irrelevant, and it does not fulfill the contemporary requirements of industry and business.

Pakistan does not have an official system of regular publishing education monitoring report at the national or provincial levels. The Academy of Educational Planning and Management (AEPAM), a body working under the Federal Ministry of Education, releases an annual report called Pakistan Education Statistics to log the condition of education in the country. However, this report does not include an inclusive education monitoring framework.

From the civil-society, Alif Ailaan (2018a) was a nonprofit organization which worked in the field of education in Pakistan during 2013 and 2018. Launched by a team of media and communications specialists, the program highlighted the important of education through various format of disseminations (campaigns in print, on radio and television, and on social media) to make the masses aware about the quality education. The program conducted seminars and surveys and published the highly cited district education ranking report (Alif Ailaan, 2018b). It also worked on the performance of parliamentarians in reforming education in their constituencies. Alif Ailaan identified the weak spots in education through research for assisting decision makers in creating and implementing better education policies.

Annual Status of Education Report Pakistan has been monitoring the status of education in Pakistan with a citizen-led household level survey of children aged 3-16 years since 2009. The household survey captures the learning outcomes of children, enrollment status and provision of school facilities in districts (almost all rural) of Pakistan. The findings are published annually by Idara-e-Taleem-o-Aagahi (ITA).

The latest ASER report (ASER, 2023) for the year 2023 was launched on March 8, 2024<sup>1</sup> which highlights the alarming condition of Pakistan's education system. The report shows that "26 million children in the age range of 5 to 16 are out of the education system, and the quality of education given to students is also worrisome. The report also reveals the alarming inter-provincial disparities, learning gaps between private and public schools, and a wide gender gap in enrollment. It sheds light on the impact of climate change on the education system and the challenges faced by girls in accessing education". However, the survey methodology is criticized being non-representativeness. Further, the federal and provincial governments and the bureaucracy do not take the ownership of these research efforts in developing educational policies.

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<sup>1</sup> [https://aserpakistan.org/document/2024/aser\\_national\\_2023.pdf](https://aserpakistan.org/document/2024/aser_national_2023.pdf)

Recently, Ministry of Planning, Development & Special Initiative, Government of Pakistan published “District Education Performance Index (DEPIx) Report 2023”. According to the published report<sup>2</sup>, “DEPIx is a comprehensive tool that measures the performance of education systems at the district level, focusing on key outcomes such as access, learning, and equity, processes such as governance, and inputs like public financing and infrastructure. The DEPIx is structured across five domains: Infrastructure & Access, Learning, Inclusion (Equity & Technology), Governance & Management, and Public Financing. It covers 134 districts across Pakistan, including Balochistan, Khyber Pakhtunkhwa (KP), Punjab, Sindh, and the Islamabad Capital Territory (ICT)”.

While the DEPIx is a valuable tool for assessing the state of education in the country, it has faced several criticisms including; arbitrary weights assigned to the domain in DEPIx, quality of learning was not adequately captured, equity and inclusion was not properly handled, accuracy and reliability of the data used in the DEPIx have been questioned, variation in data collection methods across districts leading to inconsistencies and potential biases. Moreover, the report does not offer concrete recommendations for policy and action.

This study provides an applicable monitoring framework using the household level data of Pakistan Social and Living-Standards Measurement (PSLM) surveys, collected by the Pakistan Bureau of Statistics. With the release of new wave of PSLM, the recommended indicators and composite indices of this study may be easily followed and updated to monitor the changes in educational achievement and status.

After describing a brief methodology for developing composite indices in the next section, major findings are summarized in Section-3, while the district-wise indices and district ranking are collated in exhibits furnished in the Appendix. Section-4 is reserved for concluding remarks.

## **2. Methodology and Data**

### *2.1 Indicators Chosen to Assess Educational Performance*

After considering the educational priorities and more importantly nationally representative data availability, five indicators are considered for measuring the status of education in Pakistan at national, regional, provincial and district levels. In terms of access to schooling two indicators are used: pre-primary enrollment and out of school children in the age cohorts 5-16 years. To monitor educational achievement, literacy rates (10+ years and 15-24 years) and proportion of population with tertiary education are included.

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<sup>2</sup> [https://www.pc.gov.pk/uploads/archives/DEPIx\\_Updated-Final-Report.pdf](https://www.pc.gov.pk/uploads/archives/DEPIx_Updated-Final-Report.pdf)

One of the key principles of the 2030 global SDG agenda (SDSN, 2015) is to address the notion “leaving no one behind”. Thus, to realize the international commitment of inclusive development, data disaggregation with respect to vulnerable and left-behind population is essential. However, due to data constraints, only gender and regional (rural-urban) parity indices are developed to evaluate the inequality in the access to education.

## 2.2 Methodology for Computing Composite Indices

While portfolio or dashboard of individual indicators are informative and necessary, there is also a need for a summary measure that combines indicators into a single number which can be quickly grasped. However, one of the issues in the construction of composite indices is the substitutability among component indicators. High achievement for instance, in primary education may be fully compensated or counterweighted with the low level of tertiary education. This situation is not suitable for a combined index where a minimum of all components is required. Therefore, a non-compensatory composite index is developed which assumes ‘non-substitutability’ of the individual indicators. This approach gives same ‘importance’ to all indicators and a full compensation among them is not allowed. In a non-compensatory approach, all the dimensions of the phenomenon must be balanced and an aggregation function that takes unbalance into account, in terms of penalization, is used.

This research follows the methodology developed by Mazziotta and Pareto (2016) to compute a non-compensatory composite index for spatial comparisons as well as its variant for spatial-temporal comparisons. The Adjusted Mazziotta-Pareto Index (AMPI) is a non-compensatory (or partially compensatory) composite index that allows comparability of the data across units and over time. It is a variant of the Mazziotta–Pareto Index (MPI) and is based on a non-linear function which, starting from the arithmetic mean, introduces a penalty for the units with unbalanced values of the indicators. Individual indicators are normalized by a re-scaling according to two ‘goalposts’, i.e., a minimum and a maximum value which represent the possible range of each variable for all time periods and for all units. Such type of normalization allows to perform absolute comparisons over time. Following steps for calculating AMPI are reproduced from Mazziotta and Pareto (2018).

Given the matrix  $x_{ij}$ , following normalized matrix  $r_{ij}$  is calculated.

$$r_{ij} = \left[ \left( \frac{(x_{ij} - Min_{xj})}{(Max_{xj} - Min_{xj})} \right) * 60 + 70 \right] \quad (1)$$

where  $Min_{xj}$  and  $Max_{xj}$  are the ‘goalposts’ for the indicator j. The ‘goalposts’ can be fixed so that 100 represents a reference value. They used a simple procedure for setting the goalposts. Let  $Inf_{xj}$  and  $Sup_{xj}$  be the overall minimum and maximum of the indicator j across all units and all time periods considered. Denoting with  $Ref_{xj}$  the reference value for the indicator j, the ‘goalposts’ are defined as:

$$\begin{cases} Min_{xj} = Ref_{xj} - \Delta \\ Max_{xj} = Ref_{xj} + \Delta \end{cases}$$

where  $\Delta = (Sup_{xj} - Inf_{xj})/2$ . The normalized values will fall approximately in the range (70:130), where 100 represents the reference value.

Now denoting with  $M_{ri}$  and,  $S_{ri}$  respectively, the mean and standard deviation of the normalized values of the unit  $i$ , the generalized form of AMPI is given by

$$AMPI_i^{+/-} = M_{ri} \pm S_{ri}cv_i \quad (2)$$

where  $cv_i = S_{ri}/M_{ri}$  is the coefficient of variation of the unit  $i$ .

If the composite index is ‘positive’, i.e., increasing values of the index correspond to positive variations of the phenomenon (e.g., socio-economic development), then  $AMPI_i^-$  is used. On the contrary, if the composite index is ‘negative’, i.e., increasing values of the index correspond to negative variations of the phenomenon (e.g., poverty, disparity etc.), then  $AMPI_i^+$  is used. In any cases, an unbalance among indicators will have a negative effect on the value of the index.

The AMPI decomposes the score of each unit in two parts: mean level  $M_{ri}$  and penalty ( $S_{ri}cv_i$ ). The penalty is a function of the indicators’ variability in relation to the mean value (‘horizontal variability’) and it is used to penalize the units. The aim is to reward the units that mean being equal, have a greater balance among the indicators values.

Following this methodology, a Composite Index of Educational Status (CIES) is developed for this study.

### 2.3 Data Used in the Analysis

Household data of Pakistan Social and Living Standards Measurement (PSLM) surveys for the year 2004-05, 2008-09, 2010-11, 2014-15 and 2019-20 are used for this research. These surveys were conducted by Pakistan Bureau of Statistics (PBS). The PSLM provides a set of district level representative, population-based estimates of social indicators. PSLM covers all urban and rural areas of the four provinces and the capital territory (Islamabad) of Pakistan. It however excludes some parts of northern areas, protected areas of KPK and military restricted areas. PBS uses separate sampling frames for urban and rural areas. For urban areas, PBS has developed a sample frame using quick count listing methods for households in major cities and town. Each area is subdivided into enumeration blocks based on of 200 to 250 households. For rural areas, the list of village/mouzas/dehs published in population and housing censuses is used as a sampling frame.

In all surveys, a two-stage stratified random sample design is adopted to select the households. In the first stage, Primary Sampling Units (PSUs) are selected in the urban and rural areas. Enumeration blocks in the urban areas and mouzas/dehs/village in the rural areas are PSUs. The sample PSUs are selected by Probability Proportional to Size (PPS)<sup>3</sup> based on the number of households in the PSU. The households within PSU were taken as secondary sampling units (SSUs) and chosen using systematic sampling scheme with a random start. Sixteen and twelve households are selected from rural and urban areas respectively from each primary sampling unit.

The Exhibit 2.1 furnishes the sample households<sup>4</sup> enumerated in the surveys of PSLMs in the respective year.

Exhibit – 2.1			
Number of Households in PSLM datasets			
PSLM – Survey Years	Overall	Urban	Rural
2004-05	73570	26425	47145
2008-09	75773	26975	48798
2010-11	76546	26801	49745
2014-15	78635	13965	64670
2019-20	160008	49797	110211

Source: Household level data of respective PSLM Surveys.

### 3. Major Findings

The current scenario of educational status of Pakistan and its provinces in terms of chosen indicators for this analysis is organized in the Exhibit 3.1. The Exhibit presents values derived from the latest available PSLM survey data for the year 2019-20. A quick look at the exhibit reveals that performance of KPK province is better than Sindh province in most of the indicators, especially in regional parity indices. As expected, highest and lowest values of the indicators related to the access to education are evident respectively in Punjab and Baluchistan provinces. Gender disparities are significantly high in KPK and Baluchistan as compared with Punjab and Sindh, especially in tertiary education and literacy.

Exhibits 3.2 through 3.4 disseminate inter-temporal national absolute values of educational indicators respectively for access, and disparities in terms of gender and urban/rural locations. These exhibits also provide compound annual growth rates (CAGR) for each category. Major findings from these exhibits are highlighted below.

The highest compound annual growth rate of 4.3 percent is observed during 2011-15 in the ‘pre-primary’ enrollment rates (Exhibit 3.2). In contrast, negative CAGR (-4.1%) is observed in the period 2015-20. Barring pre-primary enrollment rates, the other indicators of access to schooling are showing approximately 1 percent CAGR during the study period 2005-2020.

<sup>3</sup> Probability proportional to size (PPS) is a sampling method that uses the size of a unit in a population to determine its probability of being selected for a sample. It is also known as unequal probability sampling.

<sup>4</sup> Few households however were dropped during the data cleaning process.

Exhibit – 3.1 National and Provincial Indicators of Educational Status [2020]					
	Pakistan	Punjab	Sindh	KPK	Baluchistan
<b>Indicators for Access to Education</b>					
Pre-Primary Enrollment Rate - (3-5 Years)	23.7	33.0	15.6	13.7	8.3
Enrollment - (5-16 Years)	68.3	77.0	52.5	65.0	50.0
Population with Tertiary Education - (24 plus)	9.6	8.3	8.7	7.1	5.6
Literacy Rate - (10 Years and Older)	61.3	64.9	51.9	50.3	43.3
Youth Literacy Rate - (15-24 Years)	72.9	78.7	58.8	64.2	51.8
<b>Parity Indices – Gender [Female to Male Ratio]</b>					
Pre-Primary Enrollment Rate - (3-5 Years)	94.8	99.7	78.7	84.5	99.6
Enrollment - (5-16 Years)	87.0	94.5	74.6	65.1	61.7
Population with Tertiary Education - (24 plus)	71.3	97.4	36.7	34.3	23.8
Literacy Rate - (10 Years and Older)	70.8	75.7	58.5	41.5	42.9
Youth Literacy Rate - (15-24 Years)	81.9	89.4	68.7	49.4	50.5
<b>Parity Indices – Regional [Rural to Urban Ratio]</b>					
Pre-Primary Enrollment Rate - (3-5 Years)	64.4	80.9	55.6	63.8	46.4
Enrollment - (5-16 Years)	80.9	89.3	71.7	84.8	72.5
Population with Tertiary Education - (24 plus)	31.2	41.3	40.7	41.5	42.1
Literacy Rate - (10 Years and Older)	70.0	79.9	67.2	79.1	65.2
Youth Literacy Rate - (15-24 Years)	77.7	87.1	68.2	82.9	65.9
Sources: Pakistan Social and Living-Standard Measurement Survey (PSLM) 2019-20					

Exhibit – 3.2 Indicators of Access to Education – National Scenario									
	2005	2009	2011	2015	2020	2005-11	2011-15	2015-20	2005-20
Access Indicators [Percentages of Relevant Population]	Compound Annual Growth Rate (%)								
Pre-Primary Enrollment	19.7	23.9	24.7	29.2	23.7	3.8	4.3	-4.1	1.2
Enrollment Rate -516	59.8	66.6	66.9	69.9	68.3	1.9	1.1	-0.5	0.9
Tertiary Education	8.2	9.4	8.5	9.3	9.6	0.4	2.3	0.8	1.0
Literacy Rate	52.7	57.3	57.7	59.8	61.3	1.5	0.9	0.5	1.0
Youth Literacy	65.4	69.6	70.6	71.9	72.9	1.3	0.5	0.3	0.7
Source: Estimated from Household Data of respective PSLM Surveys.									

The Exhibit 3.3 furnishes the gender parity indices for all five access to education indicators. Barring to tertiary education, insignificant improvement during the analysis period is observed. Gender parity in tertiary education has improved from 49 percent in 2005 to 71 percent in 2020; revealing close to 2.5 percent CAGR. However, the parity indices for other indicators are showing very low close to or less than one percent CAGR during the study period.

Exhibit – 3.3									
Gender Parity Indices – National Scenario									
	2005	2009	2011	2015	2020	2005-11	2011-15	2015-20	2005-20
Gender Parity Indices [Percentages]					Compound Annual Growth Rate (%)				
Pre-Primary Enrollment	87.2	92.3	87.2	87.0	94.8	0.0	-0.1	1.7	0.6
Enrollment Rate -516	80.1	81.7	83.4	84.6	87.0	0.7	0.4	0.6	0.6
Tertiary Education	49.1	53.9	60.1	67.5	71.3	3.4	2.9	1.1	2.5
Literacy Rate	61.5	64.6	66.5	70.2	70.8	1.3	1.4	0.2	0.9
Youth Literacy	71.9	77.0	79.7	81.9	81.9	1.7	0.7	0.0	0.9

Source: Estimated from Household Data of respective PSLM Surveys.

Regional (urban/Rural) picture in terms of regional parity indices are showing a mixed trend (Exhibit 3.4). Beside literacy rate, slight improvement during the analysis period is observed, while parity has decreased in the literacy rate from 70.6 in 2005 to 70.0 in 2020 (negative CAGR of 0.1 percent). The exhibit also reveals a significant improvement with the estimated CAGR of 2.5 percent in tertiary education.

Exhibit – 3.4									
Regional Parity Indices – National Scenario									
	2005	2009	2011	2015	2020	2005-11	2011-15	2015-20	2005-20
Regional Parity Indices [Percentages]					Compound Annual Growth Rate (%)				
Pre-Primary Enrollment	58.0	60.9	65.2	65.8	64.4	2.0	0.2	-0.5	0.7
Enrollment Rate -516	73.9	76.9	77.3	77.7	80.9	0.8	0.1	0.8	0.6
Tertiary Education	21.5	23.9	22.6	27.3	31.2	0.9	4.8	2.7	2.5
Literacy Rate	70.6	81.4	83.9	92.6	70.0	2.9	2.5	-5.5	-0.1
Youth Literacy	69.6	72.7	75.3	74.5	77.7	1.3	-0.3	0.8	0.7

Source: Estimated from Household Data of respective PSLM Surveys.

The above analysis is based on the absolute values of the selected individual indicators, while the combined or composite picture is represented by the value of Composite Index of Educational Status (CIES) which is a non-compensatory composite index. While developing the CIES, indicators are normalized with the minimum and maximum values to represent the possible range of each variable for all time periods and for all units. Thus, CIES enables comparison over-time as well as among cross-section units (provinces, districts). These indices are developed with the national estimates of the year 2005 as base value. Thus, the pertinent values of CIES may only be compared with the values observed in the year 2005.

The Exhibit 3.5 gives estimated composite national, provincial, and regional indices for the educational status of Pakistan in terms of selected all 15 indicators of access and parity. Overall 4.1 percent national growth during the period of analysis (from 2005 to 2020) is evident in the Exhibit. The growth however is almost stagnant with only 0.3 percent compound annual growth rates.

Provincial estimates reveal highest (5.7) percent change in Punjab province followed by Baluchistan (4.4). Not surprisingly Sindh is far behind with only 0.7 percent change. Provincial trends clearly indicate consistent upward trend in Punjab CIES, while KPK CIES is showing an

upward trend up to 2015. In contrast, the provincial CIES of Sindh is showing a continuously downward trend from 2009. In case of Baluchistan, a continuously upward trend is observed after 2011.

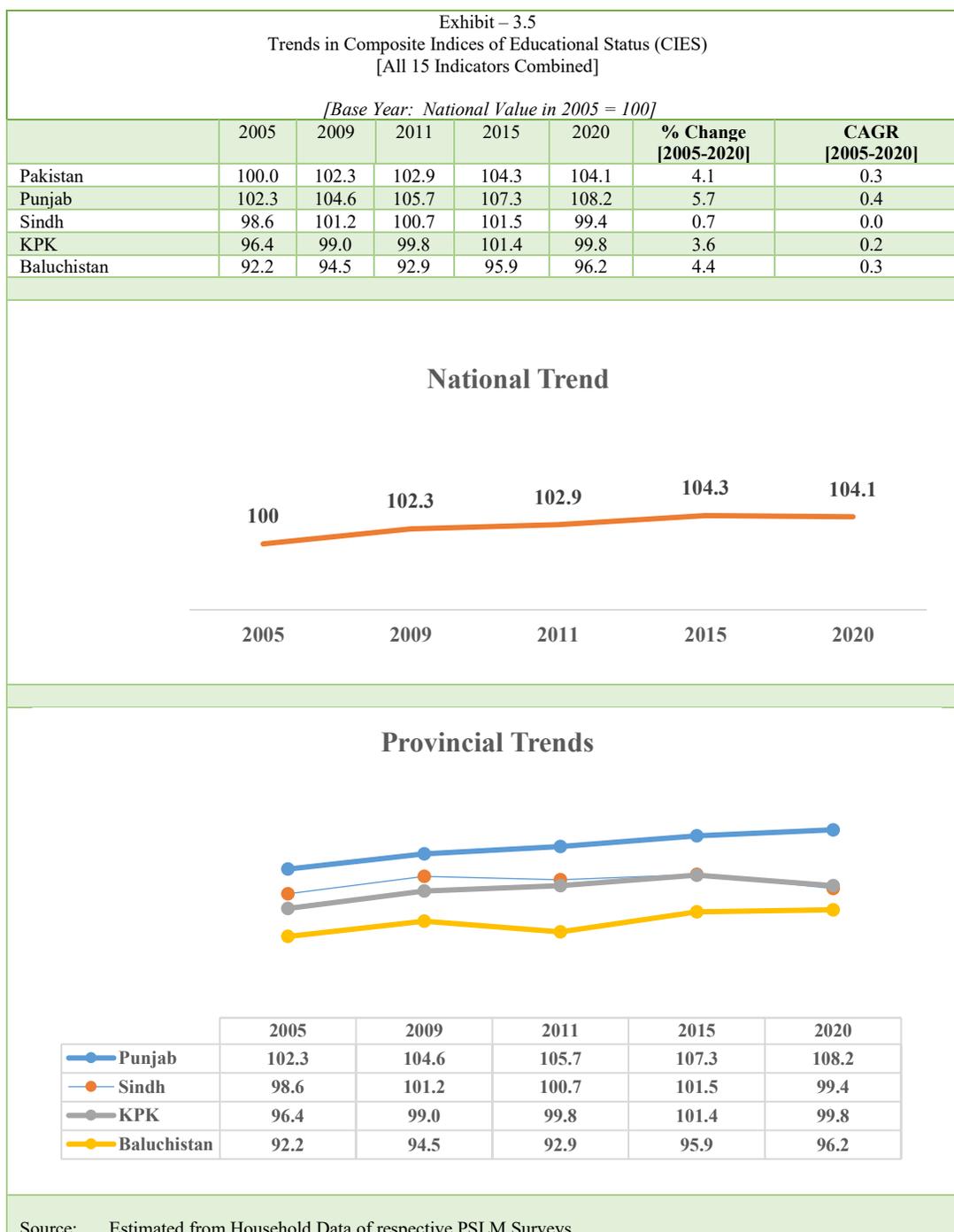


Exhibit 3.6 summarizes the trends in the constituents (Access and Parity indices) of CIES. The percent changes in the composite parity indices are relatively low. Respectively 4.6 and 2.3 percent changes in the gender and regional composite indices are evident in the Exhibit during the period 2005 and 2020 as compared with 5 percent change in the indicators of access to education.

Exhibit – 3.6							
Constituents of Composite Indices of Educational Status							
<i>[Base Year: National Value in 2005 = 100]</i>							
	2005	2009	2011	2015	2020	% Change [2005-2020]	CAGR [2005-2020]
<b>AMPIs – Access Indicators:</b>							
Pakistan	100.0	103.6	103.7	105.9	105.0	5.0	0.3
Punjab	101.9	105.7	106.1	108.8	109.6	7.6	0.5
Sindh	100.1	103.3	102.7	103.1	100.5	0.4	0.0
KPK	95.2	98.9	99.6	103.2	100.4	5.5	0.4
Baluchistan	89.2	93.4	92.5	94.4	94.0	5.4	0.4
<b>AMPIs – Gender (Female/Male) Parity Indices:</b>							
Pakistan	100.0	101.6	102.6	103.9	104.6	4.6	0.3
Punjab	103.6	105.4	106.7	107.9	109.6	5.8	0.4
Sindh	99	100	100	102	101.7	3.0	0.2
KPK	91.1	92.9	95.1	95.0	95.3	4.6	0.3
Baluchistan	88.6	89.5	86.6	91.5	94.2	6.3	0.4
<b>AMPIs – Regional (Rural/Urban) Parity Indices:</b>							
Pakistan	100.0	101.6	102.1	102.8	102.3	2.3	0.1
Punjab	101.3	102.0	103.5	103.7	104.2	2.9	0.2
Sindh	95.8	99.3	98.2	98.2	94.9	-1.0	-0.1
KPK	101.5	104.1	103.8	104.7	102.8	1.3	0.1
Baluchistan	96.9	98.8	97.8	100.4	99.7	2.9	0.2
Source: Estimated from Household Data of respective PSLM Surveys.							

District-wise information regarding the indices of educational status are collated in the Appendix. The Exhibits A-1 through A-4 in the appendix furnishes value of CIES as well as its components (access and parity indices) for the year 2020. National ranking of districts according to the magnitudes of CIES are furnished in these exhibits. Exhibits A-5 and A-6 respectively provide names of top and lowest 20 districts according to the rank order of CIES for the year 2020. The Exhibits A-7 through A-10 provide inter-temporal district values of CIES for the years 2005, 2009, 2011, 2015 and 2020.

Out of top 20 districts in terms of magnitude of CIES in the year 2020 (Exhibit A-5), 15 belong to the Punjab province, 4 belong to Sindh, mainly Karachi (South, Central, East and Korangi districts) and one belongs to KPK (Abbottabad). In contrast, the list of lowest 20 (Exhibit A-6) is displaying 9 districts belong to the province of Baluchistan, 8 belong KPK province, while 3 (Thatta, Sujawal, Kashmore) districts belong to Sindh.

#### **4. Concluding Remarks**

Five nationally representative large household surveys of Pakistan which are considered in this research, provide an opportunity to compare performance of provincial governments in improving the access to education and reducing the parities with respect to gender and region across two distinct eras in terms of political governance, macroeconomic performance, and financing of education. After the Eighteenth Amendment to the Constitution of Pakistan adopted in 2010, provincial governments with devolved ministries and enhanced fund transfers from the Federal Government are solely responsible for education, health, social welfare, and social protection sectors. Therefore, the exercise of comparing the performance in the education sector may open the discourse on problems and hurdles associated with the achievement of benefits of devolution. Coincidentally, these two time periods not only reflect high and low growth episodes but also differ in various aspects of functioning of local bodies.

Non-compensatory composite indices are developed for this research to summarize the status of educational achievement in terms of access to and parity in education. The construction of non-compensatory indices is based on the assumptions of ‘non-substitutability’ of the individual indicators. This notion ensures that all indicators have same importance and a full compensation among them is not allowed.

The results of this exercise clearly reveal very low, almost stagnant growth not only in the individual access indicators as well as in the composite indices of educational performance during the period 2005-20. This is despite the presence of 18<sup>th</sup> Amendment in the Constitution which provides freedom, liberty and choices in terms of policy making to provinces as well as enhanced financing through 7<sup>th</sup> NFC Award (2010). Gender and regional parity indices are although showing improvement but with very low speed.

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**Appendix:**  
**District-Wise Information on Composite Indices of Educational Status (CIES)**

Exhibit – A.1 Composite Indices of Educational Status – Punjab 2020 [Base: 2005 National Value= 100]					
	Overall Index		Value of Constituent Indices		
	Value	National Rank Order [Highest=1, Lowest=126]	Access to Education	Gender Parity	Regional Parity
Islamabad	118.0	1	127.5	110.9	111.5
Sialkot	117.1	2	119.3	117.2	109.3
Jhelum	115.6	4	116.8	113.9	109.6
Chakwal	115.3	5	117.2	112.5	111.5
Gujranwala	115.2	6	116.6	117.2	107.6
Lahore	115.2	7	118.5	113.2	—
Narowal	115.2	8	118.8	112.9	108.2
Gujrat	115.1	9	115.4	113.8	112.6
Rawalpindi	114.9	10	120.4	111.5	110.4
Sheikhupura	112.5	13	109.7	112.1	113.4
Mandi Bhauddin	111.7	15	111.6	113.2	107.5
Attock	111.3	17	114.0	108.5	108.0
Faisalabad	110.9	18	110.8	112.0	107.8
T.T.Singh	110.9	19	111.2	112.0	106.1
Nankana Sahib	110.6	20	109.9	111.0	109.0
Sargodha	110.5	21	112.9	109.8	105.8
Hafiz Abad	110.4	23	110.0	109.4	109.8
Kasur	109.7	24	108.3	110.3	108.4
Leiah	108.4	25	109.2	105.7	107.9
Okara	107.9	26	108.0	109.6	104.8
Sahiwal	107.0	27	106.1	109.0	104.3
Jhang	106.4	28	108.6	105.0	103.6
Khushab	105.9	30	107.8	103.0	105.3
Multan	105.8	33	107.3	108.0	101.4
Khanewal	105.6	35	105.9	107.0	102.6
Chiniot	104.7	39	103.2	101.6	108.1
Mianwali	104.7	40	106.5	102.1	103.7
Bahawalpur	104.2	42	101.5	106.7	103.3
Pakpattan	103.9	44	100.5	105.9	104.0
Bhakkar	103.4	47	102.7	101.5	104.8
Bahawalnagar	102.8	48	102.8	105.5	98.6
Vehari	102.7	50	100.0	108.4	98.4
Lodhran	101.6	53	99.2	104.5	100.3
R. Y. Khan	100.4	58	98.2	103.2	99.1
D.G.Khan	99.9	60	99.6	100.8	98.8
Muzaffargarh	98.8	63	96.0	98.2	101.7
Rajanpur	96.4	79	93.2	99.4	95.4

Note: The sign ‘—’ in cells indicate no urban area is reported for these districts.

Source: Estimated from Household Data of PSLM Surveys 2019-20

Exhibit – A.2  
Composite Indices of Educational Status – Sindh 2020  
[Base: 2005 National Value= 100]

	Overall Index		Value of Constituent Indices		
	Value	National Rank Order [Highest=1, Lowest=126]	Access to Education	Gender Parity	Regional Parity
Karachi East	115.7	3	121.0	109.2	—
Karachi Central	114.8	11	119.3	110.6	—
Korangi	112.8	12	114.4	108.9	—
Karachi South	112.3	14	114.6	108.1	—
Hyderabad	105.9	31	108.7	106.8	101.1
Karachi Malir	105.8	32	104.0	106.2	105.8
Karachi West	103.8	45	105.7	107.0	96.9
Dadu	99.7	61	97.4	99.7	100.1
Noshero Feroz	99.0	62	96.5	99.1	100.1
Khairpur	98.3	65	95.7	94.2	103.8
Matiari	98.1	66	96.3	98.0	99.4
Larkana	97.5	71	94.3	94.9	102.1
Sukkur	97.5	73	98.4	97.5	95.5
SB - Nawab Shah	97.0	74	96.3	92.6	101.3
Jamshoro	96.6	78	94.5	99.7	94.6
Shahdadkot	96.1	80	94.5	95.5	97.4
Tando Alah Yar	96.0	82	93.6	96.3	97.2
Tando M Khan	95.9	83	85.8	94.1	104.1
Sanghar	95.5	87	94.2	93.8	98.0
Mirpur Khas	93.4	95	91.5	94.6	92.6
Shikarpur	92.6	97	90.0	92.7	93.3
Ghotki	92.1	99	90.3	87.9	96.2
Umer Kot	91.7	101	90.3	88.0	95.1
Jacobabad	91.6	103	89.3	92.3	90.9
Badin	91.6	104	87.4	91.2	94.2
Tharparkar	91.1	105	84.8	87.4	96.7
Thatta	90.2	108	83.4	93.4	91.2
Sujawal	88.9	111	83.3	87.9	93.4
Kashmore	88.7	114	82.7	84.7	95.2

Note: The sign ‘—’ in cells indicate no urban area is reported for these districts.

Source: Estimated from Household Data of PSLM 2019-20 Survey.

Exhibit – A.3  
Composite Indices of Educational Status – KPK 2020  
[Base: 2005 National Value= 100]

	Overall Index		Value of Constituent Indices		
	Value	National Rank Order [Highest=1, Lowest=126]	Access to Education	Gender Parity	Regional Parity
Abbottabad	111.5	16	116.4	109.0	106.4
Haripur	110.5	22	114.8	107.6	105.4
Chitral	106.1	29	103.0	104.9	107.6
Mardan	105.7	34	105.0	99.6	110.7
Kark	105.4	36	106.2	98.8	107.7
Mansehra	105.1	37	106.5	101.3	106.3
Malakand	104.6	41	104.8	102.2	—
Nowshera	103.9	43	103.5	100.1	107.0
Peshawar	103.5	46	107.0	98.3	104.2
Swabi	102.8	49	101.7	100.5	104.9
Charsada	102.5	51	101.4	97.9	106.5
Swat	100.7	56	99.8	96.1	104.0
Lower Dir	100.4	59	99.5	97.3	102.5
Bannu	97.8	68	99.9	90.9	101.1
Lakki Marwat	97.5	72	100.1	88.7	101.1
Kohat	96.9	75	97.0	92.3	99.4
Khyber	96.8	77	94.4	81.9	113.7
Upper Dir	96.1	81	94.9	91.1	99.7
D.I.Khan	95.5	86	94.6	92.3	98.5
Tank	94.9	89	96.0	86.6	98.7
Batagram	92.8	96	94.2	90.9	—
Kurram	92.6	98	94.6	89.3	—
Bonair	91.8	100	92.7	88.7	—
Hangu	91.7	102	89.7	83.3	98.0
Shangla	89.6	110	91.3	85.8	—
Orakzai	88.8	113	91.9	81.9	—
South Waziristan	88.1	117	89.8	82.6	—
North Waziristan	85.6	119	90.9	73.2	—
Bajur	84.5	120	85.6	79.8	—
Tor Ghar	83.3	121	87.1	74.8	—
Mohmand	81.6	123	83.8	74.3	—
Kohistan	80.7	124	84.6	70.7	—

Note: The sign ‘—’ indicate either no urban area or due to some data problem the Regional Parity indices were not computed.

Source: Estimated from Household Data of PSLM Surveys 2019-20

Exhibit – A.4  
Composite Indices of Educational Status – Baluchistan 2020  
[Base: 2005 National Value= 100]

	Overall Index		Value of Constituent Indices		
	Value	National Rank Order [Highest=1, Lowest=126]	Access to Education	Gender Parity	Regional Parity
Quetta	104.8	38	104.8	101.2	106.1
Pashin	101.8	52	103.0	92.8	107.2
Nushki	100.8	54	103.3	93.3	103.5
Gwadar	100.8	55	104.1	95.4	101.1
Awaran	100.5	57	88.5	105.3	104.5
Mastung	98.8	64	99.5	93.9	101.9
Lasbilla	98.0	67	91.7	95.3	113.7
Kohlu	97.8	69	95.7	97.1	97.5
Loralai	97.6	70	97.8	94.6	99.0
Kharan	96.9	76	97.1	92.1	99.5
Ziarat	95.8	84	90.6	93.9	100.1
Harnai	95.6	85	91.1	97.4	93.9
Ketch/Turbat	94.9	88	93.7	90.3	99.1
Sibbi	94.2	90	93.7	99.3	85.1
Qilla abd	94.1	91	87.8	88.8	101.4
Bolan/Kachhi	93.9	92	91.4	93.5	94.7
Sohbatpur	93.8	93	88.9	90.0	97.5
Washuk	93.7	94	91.5	95.1	—
Jafarabad	90.7	106	87.6	89.7	93.0
Barkhan	90.3	107	85.1	86.6	93.5
Duki	89.7	109	83.3	70.2	101.5
Nasirabad	88.9	112	82.0	88.1	89.0
Qillah Saifullah	88.5	115	92.7	80.9	—
Dera Bugti	88.3	116	78.3	86.0	90.7
Kalat	87.7	118	87.6	84.9	—
Khuzdar	82.4	122	79.8	83.3	—
Shaheed Sikandar Abad	76.6	125	73.9	70.0	—
Sheerani	73.0	126	75.7	58.9	—

Notes: PSLM 2019-20 data was not available in districts Chaghi, Panjgur, Zhob, Musa Khel and Jhal Magsi due to changes in district boundaries (formation of new districts) or PSLM survey was not conducted due to law-and-order situation.

The sign ‘—’ indicate either no urban area or due to some data problem the Regional Parity indices were not calculated.

Source: Estimated from Household Data of PSLM Surveys 2019-20.

Exhibit – A.5				
Top 20 Districts According to the Values of CIES for the Year 2020				
Province	District	Values	National Rank Order [Highest=1, Lowest=126]	
Punjab	Islamabad	118.0	1	
	Sialkot	117.1	2	
	Jhelum	115.6	4	
	Chakwal	115.3	5	
	Gujranwala	115.2	6	
	Lahore	115.2	7	
	Narowal	115.2	8	
	Gujrat	115.1	9	
	Rawalpindi	114.9	10	
	Korangi	112.8	12	
	Sheikhupura	112.5	13	
	Mandi Bhauddin	111.7	15	
	Attock	111.3	17	
	Faisalabad	110.9	18	
	T.T.Singh	110.9	19	
	Nankana Sahib	110.6	20	
	Sindh	Karachi East	115.7	3
		Karachi Central	114.8	11
		Korangi	112.8	12
		Karachi South	112.3	14
KPK	Abbottabad	111.5	16	

Source: Appendix-Exhibits A1-A4

Exhibit – A.6			
Lowest 20 Districts According to the Values of CIES for the Year 2020			
Province	District	Values	National Rank Order [Highest=1, Lowest=126]
Baluchistan	Barkhan	90.3	107
	Duki	89.7	109
	Nasirabad	88.9	112
	Qillah Saifullah	88.5	115
	Dera Bugti	88.3	116
	Kalat	87.7	118
	Khuzdar	82.4	122
	Shaheed Sikandar Abad	76.6	125
	Sheerani	73.0	126
KPK	Shangla	89.6	110
	Orakzai	88.8	113
	South Waziristan	88.1	117
	North Waziristan	85.6	119
	Bajur	84.5	120
	Tor Ghar	83.3	121
	Mohmand	81.6	123
	Kohistan	80.7	124
Sindh	Thatta	90.2	108
	Sujawal	88.9	111
	Kashmore	88.7	114

Source: Appendix-Exhibits A1-A4

Exhibit – A.7  
Trend in Overall Composite Indices of Educational Status – Punjab  
[2005 National Value = 100]

	2005	2009	2011	2015	2020
Islamabad	114.6	116.5	115	116.8	118.0
Sialkot	110.9	112.6	114	114.5	117.1
Jhelum	107.9	112.4	112	115.5	115.6
Chakwal	108.7	110.7	113	114.9	115.3
Gujranwala	110.5	111.9	114	114.1	115.2
Lahore	111.3	112.8	113	114.5	115.2
Narowal	105.5	108.6	109	112.4	115.2
Gujrat	109.9	111.9	112	115.0	115.1
Rawalpindi	110.1	113.1	113	115.2	114.9
Sheikhupura	103.4	108.5	108	111.8	112.5
Mandi Bhauddin	103.2	108.9	109	113.0	111.7
Attock	104.2	106.3	110	110.2	111.3
Faisalabad	105.7	107.9	109	110.7	110.9
T.T.Singh	104.4	107.7	110	110.6	110.9
Nankana Sahib		106.7	109	109.8	110.6
Sargodha	102.0	105.5	105	108.4	110.5
Hafiz Abad	103.4	105.8	109	109.8	110.4
Kasur	101.3	105.0	107	110.7	109.7
Leiah	99.5	100.2	102	106.8	108.4
Okara	98.7	102.0	103	104.4	107.9
Sahiwal	101.1	101.3	106	106.6	107.0
Jhang	96.0	100.0	102	104.1	106.4
Khushab	101.0	103.8	106	106.0	105.9
Multan	99.4	103.3	104	106.0	105.8
Khanewal	99.2	101.5	102	105.0	105.6
Chiniot			99	102.8	104.7
Mianwali	98.7	102.2	105	103.9	104.7
Bahawalpur	99.9	98.9	101	101.3	104.2
Pakpattan	97.5	98.4	99	102.3	103.9
Bhakkar	96.6	102.6	98	102.4	103.4
Bahawalnagar	98.6	98.3	104	103.6	102.8
Vehari	98.2	102.0	102	102.9	102.7
Lodhran	94.5	100.6	100	101.9	101.6
R. Y. Khan	96.1	97.0	100	99.9	100.4
D.G.Khan	94.8	94.9	95	96.5	99.9
Muzaffargarh	92.0	96.6	96	98.9	98.8
Rajanpur	95.1	90.7	94	94.4	96.4

Note: Blank cells indicate changes in district boundaries (formation of new districts).

Source: Estimated from Household Data of Respective PSLM Survey.

Exhibit – A.8  
Trend in Overall Composite Indices of Educational Status – Sindh  
[2005 National Value = 100]

	2005	2009	2011	2015	2020
Karachi East					115.7
Karachi Central					114.8
Korangi					112.8
Karachi South					112.3
Hyderabad	98.9	107.3	107	103.0	105.9
Karachi Malir					105.8
Karachi West					103.8
Dadu	96.1	104.8	105	105.9	99.7
Noshero Feroz	100.3	107.3	100	106.4	99.0
Khairpur	98.8	100.7	100	100.2	98.3
Matiari	.	98.1	98	97.8	98.1
Larkana	93.1	97.8	98	102.6	97.5
Sukkur	101.1	100.0	99	100.4	97.5
SB - Nawab Shah	94.6	98.0	96	98.7	97.0
Jamshoro		98.4	96	99.9	96.6
Shahdadkot		96.1	96	97.2	96.1
Tando Alah Yar		98.1	98	96.6	96.0
Tando M Khan		98.6	94	93.2	95.9
Sanghar	93.3	98.8	98	94.7	95.5
Mirpur Khas	93.9	95.3	99	96.6	93.4
Shikarpur	98.3	99.2	96	96.2	92.6
Ghotki	97.1	95.3	92	93.8	92.1
Umer Kot			98	93.4	91.7
Jacobabad	89.8	93.5	91	93.1	91.6
Badin	96.7	96.5	95	94.6	91.6
Tharparkar	93.1	96.7	95	93.2	91.1
Thatta	92.2	91.5	91	96.5	90.2
Sujawal				91.2	88.9
Kashmore		96.3	92	91.0	88.7

Note: Blank cells indicate changes in district boundaries (formation of new districts).

Source: Estimated from Household Data of Respective PSLM Survey.

Exhibit – A.9 Trend in Overall Composite Indices of Educational Status – KPK [2005 National Value = 100]					
	2005	2009	2011	2015	2020
Abbottabad	106.0	111.0	108.1	109.5	111.3
Haripur	102.8	107.5	109.8	111.4	110.3
Chitral	99.4	102.6	104.9	105.8	106.3
Malakand	102.1	106.9	104.2	110.0	106.0
Mardan	99.1	101.9	99.6	103.7	105.4
Mansehra	98.9	102.8	101.5	106.7	105.0
Nowshera	98.9	101.9	102.2	105.4	103.7
Kark	96.7	97.7	99.6	105.1	103.6
Peshawar	96.8	99.7	101.7	103.5	103.4
Swabi	99.6	101.4	105.2	103.4	102.6
Charsada	97.3	100.8	98.5	102.0	102.3
Swat	95.5	95.7	99.1	101.5	100.5
Lower Dir	98.0	98.5	100.2	103.5	100.4
Bannu	92.7	96.1	98.0	99.8	97.8
Lakki Marwat	96.0	95.2	93.8	101.3	97.5
Kohat	95.6	97.3	97.2	100.1	96.9
Upper Dir	89.5	98.0	100.0	94.3	95.9
D.I.Khan	91.8	93.5	91.7	95.1	95.5
Tank	90.8	90.4	90.0	95.4	94.9
Khyber					93.5
Batagram	87.3	96.7	96.1	90.4	92.8
Kurram					92.6
Bonair	85.3	90.1	89.7	91.9	91.8
Hangu	94.2	99.7	95.9	97.8	91.6
Shangla	85.4	88.8	90.6	86.9	89.6
Orakzai					88.8
South Waziristan					88.1
North Waziristan					85.6
Bajur					84.5
Tor Ghar				81.8	83.3
Mohmand					81.6
Kohistan	79.0	82.5	81.1	80.9	80.7
Note: Blank cells indicate changes in district boundaries (formation of new districts).					
Source: Estimated from Household Data of Respective PSLM Survey.					

Exhibit – A.10  
Trend in Overall Composite Indices of Educational Status – Baluchistan  
[2005 National Value = 100]

	2005	2009	2011	2015	2020
Quetta	102.4	105.6	105	107.7	104.8
Pashin	100.1	101.8	103	99.1	101.8
Nushki		99.0	90	98.2	100.8
Gwadar	91.9	103.1	98	105.4	100.8
Awaran	85.4	89.4	96	91.8	100.5
Mastung	94.9	88.9	102	101.4	98.8
Lasbilla	90.9	95.6	91	94.3	98.0
Kohlu		93.5	89	92.3	97.8
Loralai	87.8	91.7	86	98.6	97.6
Kharan	87.6	91.8	98	95.4	96.9
Ziarat	96.0	113.0	95	93.6	95.8
Harnai			96	89.4	95.6
Ketch/Turbat	98.2	98.6	93	.	94.9
Sibbi	90.9	95.0	101	97.2	94.2
Qilla abd	89.1	92.3	99	87.4	94.1
Bolan/Kachhi	88.9	90.1	98	94.9	93.9
Sohbatpur					93.8
Washuk		88.3	92	87.6	93.7
Jafarabad	91.3	94.5	87	95.6	90.7
Barkhan	91.8	85.0	82	87.7	90.3
Duki					89.7
Nasirabad	86.8	94.7	88	92.7	88.9
Qillah Saifullah	86.3	88.8	88	101.5	88.5
Dera Bugti		87.9	82	87.8	88.3
Kalat	93.3	95.0	99	104.2	87.7
Khuzdar	91.2	94.1	100	99.0	82.4
Shaheed Sikandar Abad					76.6
Sheerani			88	79.5	73.0
Chaghi	92.8	95.9	87	86.3	
Panjgur	94.3	94.4	95		
Zhob	86.6	91.0	88	91.0	
Musa Khel	83.4	80.1	76	103.2	
Jhal Magsi	85.2	88.5	103	90.1	

Notes: PSLM 2019-20 data was not available in districts Chaghi, Panjgur, Zhob, Musa Khel and Jhal Magsi due to changes in district boundaries (formation of new districts) or PSLM survey was not conducted due to law-and-order situation. In other years, blank cells indicate changes in district boundaries (formation of new districts).

Source: Estimated from Household Data of Respective PSLM Survey.