Educational Inequality and System Bottlenecks in Pakistan (2014–2023): Tri-Country Benchmarking Against India And Bangladesh

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Abstract

This paper examines the institutional bottlenecks which still impede the process of education in Pakistan. The discussion is based on secondary data. It is a comparison of performance on indicators of access, enrolment, infrastructure, and institutional capacity and chosen benchmarks between 20142015 and 20222023 between India and Bangladesh. Results indicate that out-of-school among children aged 5-16 years decreased by 9.2 points (47.3 to 38.1) which are low improvements. Significant urban–rural disparities persist. Urban pre-primary enrolment increased significantly, with boys' enrolment by 30% and girls' by 28%, while rural pre-primary enrolment declined, indicating weakening access to early education. Girls' enrolment at the middle level increased, particularly in rural areas, suggesting improvement with availability. Capacity remains uneven: 168,241 primary schools compared with only 9,004 higher-secondary institutions and 247 universities create a steep educational pyramid that constrains post-primary progression. The study concludes with stage-specific policy recommendations aimed at strengthening lower secondary retention, minimum infrastructure standards and post primary outcomes.

KEYWORDS

Pakistan, education, out-of-school children, rural, infrastructure, dropout, comparative analysis

Introduction

Pakistan is committed to Sustainable Development Goal 4 (SDG 4) of the United Nations, which emphasizes free, equitable, and quality primary and secondary education, early childhood development, affordable technical and vocational education for men and women (Idara-e-taleem-o-agahi, n.d.). These goals are scheduled for delivery by 2030, but with current progress they are unlikely to be achieved. Credible structure and policies are absent which over time results in a directionless youth struggling on economic, social, political and moral grounds (Ahmed et al., 2014). Inconsistent attention and ideological rivalry within government (Ahmed et al., 2021) among other issues complicates an already nuanced scenario. Additionally, Pakistan is not only outpaced by other South Asian countries (Pakistan Institute of education, 2023) but also suffers from 26 million OOSC (out of school children) (Ministry of Federal Education & Professional Training, 2024). This study seeks to identify systemic constraints associated with insufficient educational growth in Pakistan and the key obstacles preventing sustainable improvement. To contextualize these challenges, the study later benchmarks Pakistan's education outcomes against India and Bangladesh using comparable indicators of access, participation, infrastructure, and system capacity.

Table 1
Population And Out-Of-Schoolchildren (2014-2023)

YEAR	2022-2023	2014-2015
School Age Population (5-16 yrs)	68529052	50788806
Out-of-school-children	26089741	24023569
Out-of-school-ratio	38.1%	47.3%

Source: Data from Pakistan Institute of Education (2023) and National Education Management Information System, Academy of Educational Planning and Management, Ministry of Federal Education and Professional Training (2016)

Literature Review

Educational inequality in Pakistan is driven by governance challenges and structural imbalance within the system (MoFEPT, 2024). These remain significant concerns, as persistent government underfunding (ADB, 2022) and inadequate infrastructure (ADB, 2022) continue to constrain the effectiveness and equitable accessibility of the education system. Lack of consistency in policies (MoFEPT, 2024) and political intervention has undermined system performance (Ahmed et al., 2014; Ahmed et al., 2021; Ministry of Federal Education & Professional Training, 2024) and the budget allocation for education remains insufficient (Asian Development Bank, 2022). Expansion of primary education without parallel investment in secondary levels creates constricted educational pipeline (Pakistan Institute of Education, 2023).

The literature review also reveals gender and regional differences in accessing education. Drop-out rates among girls are associated with security concerns, ease of mobility, and lack of adequate infrastructure (Asian Development Bank, 2022). The study found that regions such as Sindh and Balochistan lag behind other provinces (Gallup Pakistan, 2024). A

comparison with India and Bangladesh demonstrates more favorable results due to effective policies and efficient systems (DSELI, 2025; BANBEIS, 2024). While existing studies identify governance failures, underfunding, infrastructural deficits, and social disparities as key drivers of educational inequality, they predominantly examine these factors in isolation. Limited attention has been given to how these determinants interact to influence educational progression across transition stages, particularly in shaping dropout patterns. Furthermore, comparative analyses with regional contexts such as India and Bangladesh remain largely descriptive and underutilized for policy learning. This study addresses these gaps by providing an integrated analysis of systemic and social factors and their combined impact on the educational pipeline, while drawing structured policy insights from regional comparisons.

Research Methods and Data

This study is a descriptive analysis based on secondary data; no original field data were collected. We compile and compare education indicators from 2014–2015 to 2022–2023 using publicly available sources from the Ministry of Federal Education & Professional Training (2024), the Pakistan Institute of Education and related national education statistics (Pakistan Institute of Education, 2023;NEMIS, 2016), Gallup Pakistan (2024), and the Asian Development Bank (2022). The datasets used are extracted from government-hosted portals treated as official records, indicating their reliability. We examine four types of indicators: (i) access and exclusion, measured through out-of-school children (OOSC) and the out-of-school rate (OOSR), where OOSR is calculated as OOSC divided by the school-age population; (ii) enrolment by stage, gender, and location (urban/rural); (iii) school infrastructure, using the share of government schools with electricity, drinking water, latrines, and boundary walls in urban and rural areas; and (iv) institutional capacity by stage, using the number of primary, middle, high, and higher secondary schools to construct simple ratios (for example, middle ÷ primary) that show how sharply the system narrows at each level. These indicators function as assessment tools for evaluating enrolment, stage transitions and capacity-related limitations. We present absolute change, percentage change, and ratios; we do not estimate causal effects. All indicators follow the Ministry/PIE age bands (primarily 5–16 for the school-age population), but differences in definitions across sources and provinces remain a limitation.

COMPARABILITY CONSIDERATIONS FOR REGIONAL BENCHMARKING

This section situates Pakistan's schooling outcomes against India and Bangladesh using recent, officially reported indicators. Because stage labels and reference years vary (e.g., Pakistan's Primary/Middle/High/Higher Secondary ≈ India's Primary/Upper Primary/Secondary/Higher Secondary ≈ Bangladesh's Primary/Junior Secondary/Secondary/Higher Secondary), comparisons are descriptive, not causal. Cross-country comparability is limited by some inherent differences in country-specific definitions and data collection methods. The benchmarks help identify whether Pakistan's challenges are idiosyncratic or typical of the region—and, more importantly, at which stages policy leverage is most urgent.

1. Socio-Economic and Systemic Barriers

Issues affecting low enrollment in Pakistan's education sector vary widely, ranging from students leaving secondary education due to economic irrelevance and cultural pressures (MoFEPT, 2024) , to structural constraints such as centralized land ownership (Ghazi et al., 20) and political interference (MoFEPT, 2024) . Deficiencies also exist at the foundational level of the system. According to the 2023 report of Pakistan Statistics, 63% of students in primary schools and 65% in middle schools are over aged (PIE, 2023). While other systemic weaknesses further aggravate the crisis, poor child health remains a major concern: (UNICEF, 2019 as cited in MoFEPT, 2024) reported that many children are not physically healthy enough to enter classrooms.

The lack of quality education (Ministry of Federal Education & Professional Training, 2024, Ghazi et al., 2010, Ahmed et al., 2014) and the uncertainty of future economic returns (Ministry of Federal Education & Professional Training, 2024) contribute significantly to high dropout rates, discouraging students and their families. Equity and access is also limited by elite bias in education (Ministry of Federal Education & Professional Training, 2024). Most importantly, Pakistan has never been able to devote the suggested 4% of GDP to education. In 2024, the dropout rate in the pre-secondary education was at 80 percent with only 1.87 percent of the GDP being spent on education (MoFEPT, 2024).

Table 2a

Facilities in Urban Government Schools (2014-2023)

Facility	Available (2014→2023)		% Increase in Availability	Total (2014→2023)		% Increase in Total Schools	Availability % (2014)	Availability % (2023)
Electricity	12,099 16,115	→	+33.3%	14,536 21,117	→	+45.3%	83.3%	76.3%
Drinking Water	12,265 16,838	→	+37.3%	14,536 21,117	→	+45.3%	84.4%	79.7%
Latrine	12,263 17,547	→	+43.1%	14,536 21,117	→	+45.3%	84.4%	83.1%
Boundary Wall	12,800 17,885	→	+39.8%	14,536 21,117	→	+45.3%	88.1%	84.7%

The number of urban schools with minimal facilities grew, but the ratios of coverage decreased (electricity 83.3% 76.3; drinking water 84.4% 79.7; boundary walls 88.1% 84.7). This trend suggests urban schools have been built at an alarming rate with insufficient provisioning of facilities (or hookups/reclassification lateness); such as urban schools with no power grew to 2,437 to 5,002.

Table 2b: Facilities In Schools In Rural Government Schools (2014-2023)

Facility	Available (2014→2023)		% Increase in Availability	Total (2014→2023)		% Change in Total Schools	Availability % (2014)	Availability % (2023)
Electricity	75,907 84,678	→	+11.5%	139,608 129,572	→	–7.2%	54.4%	65.3%
Drinking Water	91,542 97,336	→	+6.3%	139,608 129,572	→	–7.2%	65.6%	75.1%
Latrine	94,330 95,720	→	+1.5%	139,608 129,572	→	–7.2%	67.6%	73.9%
Boundary Wall	96,804 100,724	→	+4.0%	139,608 129,572	→	–7.2%	69.4%	77.7%

Source: Data from Pakistan Institute of Education (2023) and NEMIS (2016)

Between 2014–15 and 2022–23, urban schools expanded by 45.3%, rising from 14,536 to 21,117 institutions, while rural schools declined by 7.2%, from 139,608 to 129,572 and facility coverage rose (e.g. electricity 54.4% to 65.3%) which is consistent with school consolidation/mergers raising the average but decreasing total number of facilities because of the rapid expansion. Data reflects a negative trade-off, where rapid expansion—particularly in urban areas—has occurred without proportional improvements in infrastructure, leading to gaps in facility provisions.

2. Gender, Geographic, And Curriculum Challenges

Gender disparity, geographic inaccessibility, and outdated curricula jointly reinforce educational exclusion. According to the Asian Development Bank (2022), females are more likely to drop out at successive stages of schooling, especially when home-to-school distances increase (Chaudhury, Christiaensen, &Asadullah, 2006, as cited in ADB, 2022). Conversely it is observed that boys, frequently withdraw education after the primary level given lack of relevance with economic opportunities (MoFEPT, 2024).

Geographically complex areas further aggravate the present resistances, notably for girls (Asian Development Bank, 2022). Shortage of skilled technical bureaucrats accountable for development of curriculum is another area of urgent consideration to achieve long term goals, which leads to in rigid (MoFEPT, 2024) and outdated courses (Ahmed et al., 2014) that fail the standards of concurring educational and market needs.

3. LITERACY RATE OF PAKISTAN AND RECORD FOR IMPROVEMENTS

3.1 Overall Literacy Trends

Pakistan's literacy rate ascended from 54% in 2006 (Ghazi et al., 2010) to 62.8% in 2023 (MoFEPT, 2024) reflecting an 8.8 percentage point gain. There are however, considerable regional inequalities; rural areas of Sindh and Balochistan are still markedly behind KPK and Punjab (ADB, 2022) with women facing substantial disadvantages (Gallup Pakistan, 2024). Balochistan's literacy rate decreased by 1.6% from 2013 to 2017 is a major limitation, whereas ICT, Punjab, and Sindh witnessed improvement in the literacy levels. The differences indicate deep structural and gender inequalities that impede national literacy.

Table 3
Enrolment By Stage, Location And Gender (2014-2023)

STAGE	LOCATION	GENDER	2014-15	2022-23	DIFFERENCE	DIFFERENCE (%)
Pre-primary	urban	Male	292245	414060	+121815	+30%
		Female	304867	423891	+119024	+28%
	rural	Male	2146041	1944398	-201643	-10%
		Female	1758000	1703333	-54667	-3%
primary	urban	Male	1009204	1323419	+314215	+24%
		Female	1013291	1346920	+333629	+25%
	rural	Male	5085499	5151580	+66081	+1.3%
		Female	3879598	4318431	+438833	+10%
Middle	urban	Male	641321	694078	+52757	+8%
		Female	635234	782001	+146767	+19%
	rural	Male	1640082	2004267	+364185	+18%
		Female	1056102	1607689	+551587	+34%

Source: Data from Pakistan Institute of Education (2023) and NEMIS (2016)

Urban enrolment across each stage elevates for both genders (males +30%, females +28%), during 2014–15 and 2022–23. In contrast, rural pre-primary enrolment declined (–10% for boys, –3% for girls), reflecting lack of required attention in rural areas at early stages. Improved progression is observed at the middle level, where girls attained the most: rural girls' enrolment expanded by +34% and urban girls by +19%. Such progress indicates a positive outcome of gender-specific educational initiatives leading to increased female enrolment which supports future educational pipeline.

In contrast to urban growth, rural primary enrolment shows minimal growth, with only a 1.3% increase for boys despite population expansion. This limited growth reflects persistent structural constraints in rural education. The state academic inertia reveals persistent economic constraints, weak retention, and limitations in institutional infrastructure implying that future secondary-level participation can be further constrained without urgent policy intervention. Overall, participation trends in education remain uneven despite gradual improvement with rural areas showing positive outliers amid stagnation rather than system-wide advancements. Therefore, the rural and urban access divide is an overriding concern for sustained educational progression.

Provincial status of Out of School Rate and Teacher Pupil-ratio

The provincial education in Pakistan shows consistent but uneven progress that varies sharply by geography, gender and schooling stage. Education was devolved through the 18th Amendment. As a result, the provinces are allowed flexibility in determining their education systems. In the view of prevailing scenario, inter-provincial coordination is necessary to ensure comparability and student mobility (MoFEPT, 2024). Recent trends show mixed results, as literacy rates overall have slightly improved with significant gains in Punjab and Sindh, yet declines in KPK and Balochistan's reveal ongoing regional gaps that policy must address (Gallup, 2024). These outcomes are motivated by structural frictions: less access to higher standards at lower levels, faster decline with higher grades, a larger disparity in

women, and staffing policies reflect bottlenecks in capacity at the end of the pipeline (MoFEPT, 2024). To achieve results from expenditures, absorption of provincial budgets and more recently diagnosed historic enrolment lags are prior aspects to enhance (ADB, 2022). The following tables translate stage-by-stage and sex-disaggregated data to channel province-specific remedies.

Table 4a
Out-of-School-Rates of Each Province

OUT OF SCHOOL RATES PROVINCE-WISE (%)				
STAGE	SINDH	PUNJAB	BALOCHISTAN	KPK
Primary	47	29	66	25
Middle	39	20	68	23
High	50	36	71	35
Higher Secondary	62	59	79	51

Source: Pakistan Institute of education, 2023

At each stage, Balochistan has the highest OOSR. The least rates are posted in Punjab and KPK, with KPK leading at Primary and Higher Secondary, while Punjab just edges KPK at Middle, with both close at High (36% vs 35%). Every province in the country shows increasing OOSR with the stage, peaking at Higher Secondary. This pattern reflects significant depletion at the upper end of educational pipeline with potential downstream consequences.

As students move up the pipeline, the out-of-school ratios increase. In Balochistan, OOSR elevates from 66% at Primary and peaks at 79% at Higher Secondary. This means roughly 4 in 5 older adolescents are out of school by the end of upper secondary (Table 4A). Sindh also shows high OOSR 47% → 62% which fluctuates downward at Middle (39%), but then accelerates at Higher Secondary (Table 4A). Conversely, KPK initiates with the lowest Primary OOSR among all provinces (25%), shows a slight increase at Middle level, then doubles by Higher Secondary (51%) (Table 4A). According to Table 4A, Punjab, the overall most favorable profile, has the lowest Middle OOSR in the country (20 percent) but a sharp upper-grade climb to 59 percent. Taken together, these patterns show: (1) early-stage access failures are most acute in Balochistan and Sindh, (2) mid-stage transition frictions are comparatively better handled in Punjab (Middle 20%) and KPK (Middle 23%), and (3) upper-secondary is a universal cliff, with OOSR reaching 51–79% across all four provinces.

Table 4b
Out Of School Rates Of Each Province Gender wice

PROVINCIAL OUT OF SCHOOL RATES GENDER-WISE (%)								
STAGE	SINDH		PUNJAB		BALOCHISTAN		KPK	
	MALES	FEMALES	MALES	FEMALES	MALES	FEMALES	MALES	FEMALES
Primary	42	53	28	29	60	73	18	32
Middle	30	48	19	21	62	74	11	36
High	46	55	40	31	66	77	25	47
Higher Secondary	57	67	60	58	76	83	42	62

Source: Pakistan Institute of education, 2023

Girls are more likely to be out of school at every stage and in every province, with the widest gaps at higher secondary. Balochistan records the highest absolute OOSR for both sexes (e.g., HS 76–83%), while Punjab has the lowest OOSR and the smallest early-stage gender gaps. KPK shows the widest male–female gaps across stages. Sindh's gender gap widens steadily with grade.

Female disadvantage is universal and widens with grade: in KPK, middle-level OOSR jumps from 11% (boys) to 36% (girls), and in Balochistan from 62% to 74%, highlighting constraints that compound through adolescence (Table 4B). Punjab shows the smallest early-stage gender gap and even a male-higher OOSR at high, (Table 4B). Taken together—and consistent with post-devolution coordination challenges and divergent provincial trajectories noted in the policy literature—these data point to entry and lower-secondary transition bottlenecks in Sindh and Balochistan, and upper-grade retention risks in all provinces, especially for girls.

Table 5
Teacher Pupil-Ratio of Each Province

TEACHER PUPIL-RATIO				
STAGE	SINDH	PUNJAB	BALOCHISTAN	KPK
Primary	36	42	26	38
Middle	22	30	18	13
High	25	33	20	21
Higher Secondary	40	37	22	23

Source: Pakistan Institute of education, 2023

PTRs are highest at primary, dip at middle/high, then rise at higher secondary which mirrors uneven number of institutions in proportion to students. Punjab has the largest classes (e.g., Primary 42), while Balochistan has the smallest (Primary 26), due to low enrolment rather than efficiency. KPK's middle PTR = 13 is an outlier suggesting under-enrolled or multi-grade sections.

Although OOSR and PTR are not quantitatively related, the concurrence of high upper-stage OOSR with increasing PTR at Higher Secondary indicates capacity limitations at the transition point. These trends highlight the need to have designed capacity planning and inter-coordination between all provinces particularly when the powers have been decentralized. Site approvals, teacher allocation, transport/stipend at the appropriate stage (where province enrollment is declining) are proposed (MoFEPT, 2024; ADB, 2022). Overall, it is indicated that decentralization without coordination has produced transition bottlenecks: capacity misaligns with presence of learners.

Improvements and Gender-Focused Outcomes

Refinements are recent and can be used to measure the progress at the primary level. Average years of schooling increased from 2.3 in 1990 to 5.2 in 2019 (UNDP, 2020 as cited in ADB, 2022). The 2024 report shows that the literacy rates among men and women increased by 0.2 and 3.2 respectively since 2017 (Gallup Pakistan, 2024). These benefits were especially obvious among women in Sindh and Punjab, which proves that the results of targeted efforts

can be positive. Nevertheless, the areas with a decreasing level of literacy should be more actively subjected to policy and intervention (Gallup Pakistan, 2024).

Table 6
Number Of Institutes (1948-2023)

Year	Primary	Middle	High	Higher Secondary/Inter Colleges	Degree Colleges	Technical And Vocational Institutes	Universities
1947-48	8413	2190	408	40	-	46	2
1967-68	36453	3018	1827	251	50	165	7
1987-88	105884	6993	5492	548	99	560	22
2007-08	157407	40829	23964	3213	1202	3125	124
2022-2023	168241	51033	39389	9004	2573	4406	247

Source: Data from Pakistan Institute of education (2023)

Pakistan has experienced institutional growth at the bottom and at the surface. The number of primary schools expanded, with 8,413 in 194748 and up to 168,241 in 20222023; meanwhile the higher secondary institutions and universities reached 9,004 and 247 respectively. The system still becomes very acute following primary and high school, i.e., ability to absorb students into higher levels has not been matched with development at primary level. Technical and vocational Institutes have been expanded (46 → 4,406), but are small compared to the demand.

Sharp Institutional Drop at Higher Levels (Educational Pyramid Problem)

Table 06 shows that there is sharp decline in each subsequent level, 16.8 thousand primary schools, only 39.3 thousand high schools; 9 thousand higher secondary institutions and only 247 universities - a constricted educational pipeline is created, with even after finishing the prior stages, millions of pupils cannot proceed with their academic career because of the insufficient institutional opportunities. This kind of imbalance creates harmful bottlenecks at the secondary and higher-secondary levels, which has a significant impact on the educational process as a whole.

Late Development of Technical and Vocational Education

A substantial yet disproportionately low riseis presentin number of technical and vocational Institutes, from 46 in 1947 to 4,406 in 2023. This insufficiency is further visible when observed in contrast with Pakistan's population of over 240 million.This underdevelopment hinders diversification of post-school pathways and limits access of young candidates to skill-based employment opportunities.

4. The 'Middle-Level Gap' Problem

The number of middle schools (grades 6–8) elevated to 51,033 by 2023, but this remains less than one-third of the total primary schools creating institutional disproportionality. Many students lack nearby middle-level alternative as a result, producing another major bottleneck, aligning with Pakistan's challenging Out-of-School Children (OOSC) population.

Post-Independence institutional growth has been significant, as evidenced by the data, particularly in primary education where schools went up from 8,413 to 168,241. Despite growth, however, challenges remain further than primary level, limiting student progression and post-primary opportunities. Universities and technical institutes have made significant development, but their collective size still remain relatively insufficient to the population and labor market demands.

Overall, the progress is quantitative rather than structural. This points to the need for a balanced investment in all types of education, especially in middle, high and technical education.

5. Disasters

Another exacerbating factor for education is frequently occurring disasters. Almost 19,500 schools and 2.3 million children were displaced or under effect due to 2022 flood in Sindh. An innovative approach for instance Disaster Risk Management (DRR) is suggested to solve this issue where governments function with separately-funded corporate partners (MoFEPT, 2024). Shah et al. (2022) states that children in communities under effect of disaster have to go through a triple vulnerability, damaging their physical and psychological health while damaging their educational journey by displacement and instability. It is also notable here that schools are momentous DRR hubs in Balochistan—providing risk education through school assemblies, child clubs, and school-led activities in collaboration with social organizations. Equally critical factor is also that teachers and school management also provide children with imperative psychosocial support and continuity during disasters (Jaffar, Reba, Jamil, &Azeem, 2024).

6.Public-Private Partnership

A total of 10,382 schools (3.51 million students) function under Public-private partnership(PPP) (PIE, 2023) substantiating PPP as an influential aspect in this area,with numbers increasing each year. Given expanding population and acute resource shortages, a less costly PPP model presents as more practical approach for accelerated progression (MoFEPT, 2024), despite the argument on quality compared with resource efficiency continues.

These internal gaps bring to the fore the importance of some analysis of the status of Pakistan as compared to its regional counterparts such as India and Bangladesh in order to determine whether the challenges encountered are unique to the region or are commonalities of larger regional trends.

7. Regional Benchmarking: Pakistan, India, And Bangladesh (2014–2023)

To examine the situation in Pakistan in terms of whether it is peculiar or typical of the South Asian region, we study its positions using the selected indicators comparing them with India and Bangladesh (the latest data available year).

Table 7
Selected Education Indicators: Pakistan, India And Bangladesh

Indicator	Pakistan	India	Bangladesh
Education Expenditure (% Of GDP)	2.1	4.6	1.8
Completion Rates in Primary Schools	54	94	85
Transition Rate from Primary to Lower Secondary	83	91	79
Youth Literacy	73	95	94
Human Capital Index	0.4	0.5	0.4

Source: Pakistan Institute of education, 2023

As per Table 7, Pakistan spends 2.1% of the GDP on education while India's higher expenditure (4.6% GDP) is consistent with top outcomes; primary completion 94% and youths' literacy 95%. Despite lesser allocation than Pakistan (1.8%), Bangladesh's completion rate is much elevated than Pakistan (85% vs 54%), which youth literacy rate also mirrors (94% vs 73%) respectively, which indicates the system efficiency. While Pakistan's transition to lower secondary education is mid-range at 83%, weak completion indicates losses emerging post-transition. This pattern shows that investment alone is insufficient but policy-designed efficiency and retention-oriented targeted efforts are the aspects which must be priority for policy makers.

Table 8
Out Of School Rate: Pakistan, India and Bangladesh

Out Of School Rate			
Level Of Education	Pakistan	India	Bangladesh
Primary	35	1	1
Lower Secondary	28	13	10
Upper Secondary	50	44	36

Source: Pakistan Institute of education, 2023

At every educational level, Pakistan has the highest OOSR, which is at 35% at primary level and 50% by upper secondary level. This indicates a severe case of early leakage that intensifies with age. India and Bangladesh maintain primary OOSR close to 1% but escalates at upper secondary (India 44%, Bangladesh 36%). Issues of early entry and retention should be addressed in Pakistan, especially at primary level.

Core investment and participation contrasts

Data across a chosen set of indicators like public education expenditure, completion, transition, and youth literacy reveals that Pakistan underperforms relative to India and in many categoriesBangladesh. According to PIE (2023), Pakistan's educational allocation is

2.1% of GDP compared with 4.6% in India and 1.8% in Bangladesh (Table 07). Although, Bangladesh allocates a lower GDP share than India, its primary completion (85%), transition to lower secondary (79%), and youth literacy (94%) surpass Pakistan's (54%, 83%, 73%) and align more with India's higher marks (94%, 91%, 95%) (Table 07). The pattern confirms that under-investment in Pakistan is compounded by pipeline inefficiencies that constraint both completion and literacy.

This information indicates that, Pakistan begins with a lower starting point: the proportion of children who finish primary is lower, the proportion of students who manage to advance to lower secondary is lower and a smaller proportion of young people attain functional literacy. India has a higher spending combined with high completion/literacy; Bangladesh is in the middle of the pack with lower spending indicating implementation discipline (e.g., targeted retention and access to girls) which Pakistan can emulate.

Out-of-School Rate (OOSR)

According to PIE (2023), Pakistan exhibits early leakage at the primary level: OOSR 35% which is 1% in both India and Bangladesh. At lower secondary, Pakistan remains elevated (28%) compared to India (13%) and Bangladesh (10%) (Table 08). Upper secondary is a challenge across the region, but Pakistan's OOSR (50%) is again highest (India 44%, Bangladesh 36%) (Table 07). Pakistan's losses begin earlier and compound by upper secondary, while India and Bangladesh keep more children in school through the lower-secondary transition.

Infrastructure coverage: expansion vs. minimum standards

As Table 02, reflects there is an urban expansion with diluted coverage ratios e.g., electricity 83.3%→76.3% and a rural school count decline (–7.2%) alongside coverage gains e.g., electricity 54.4%→65.3% (Table 2b). Department of School Education and Literacy of India, 2025 reports near-universal drinking water (99.3%), electricity (93.6%), and girls' toilets (97.3%); Bangladesh Bureau of Educational Information and Statistics, 2024) reports electricity 98.65%, basic water 97.13%, single-sex sanitation 95.20%. Relative to these, Pakistan's urban expansion without commensurate facilities and rural consolidation create a policy paradox: average quality up in rural areas but access risk up (longer travel and fewer sites), and quantity up in urban areas but with minimum standards.

Flow indicators

Pakistan's flow performance to secondary lags India and, in several respects, Bangladesh—consistent with the OOSR ladder and stage-count pyramid. Transitions to the next stage are higher in India (Primary→Upper Primary 92.2%) and comparable in Bangladesh (Primary→Secondary 83.08%) (BANBEIS, 2024) to Pakistan's 83% (Primary→Lower Secondary). This indicates that enrolment leakage occurs early for Pakistan whereas in India and Bangladesh retention in early stages is stronger. India's secondary dropout is 11.5% (2024–25) (DSELI, 2025), while Bangladesh reports 32.85% (Secondary, 2023) (BANBEIS, 2024). Pakistan (2024) cites an internal-efficiency statistic that almost 80% of children drop out before entering secondary level (MoFEPT, 2024). Emerging patterns suggest that targeted interventions at early levels are necessary to improve retention and transitional flow.

8) Translating Regional Evidence Into Policy Options: Lessons From India And Bangladesh

India profile: what's working where Pakistan struggles

According to (DSELI, 2025) India's recent administrative series points to strong transitions (Primary→Upper Primary 92.2%; Upper Primary→Secondary 86.6%; Secondary→Higher Secondary 75.1%) and low dropout through primary (0.3% total; 0.0% for girls) with attrition concentrated at secondary (11.5%) These flows are supported by near-universal basic facilities in schools—electricity 93.6%, drinking water 99.3%, and girls' toilets 97.3%—and by teacher training coverage of ~91–93% across stages. Net Enrolment Rates (NER) remain highest at primary (total 76.9%) and step down through upper primary (67.3%) and secondary (47.5%), reflecting the typical taper in older ages.

There are two policy tools that are prominent in retention and equity. To start with, the National Means-cum-Merit Scholarship Scheme (NMMSS) has 1 lakh new scholarships every year to economically vulnerable students during the transition into secondary (Class IX) and aims at the exact dropout cliff (Ministry of Education of India, 2025).In 2023–24, 250,089 scholarships were sanctioned. Second, the ULLAS adult education/literacy program aligns with NEP-2020 to create second-chance pathways for those who missed schooling; by mid-2024, 8.9 million were certified literate, and Ladakh was declared fully literate (MEI, 2025). While these are not one-to-one transplants, they illustrate two levers Pakistan can adapt: (1) conditional scholarships concentrated at the lower-to-upper secondary hinge and (2) catch-up literacy for older adolescents and adults to raise household education capital—both linked to reduce OOSR in younger kids.

Bangladesh profile: mid-pack outcomes with strong girls' participation

According to BANBEIS, 2024, Bangladesh's profile combines mid-pack participation with high female shares in post-primary schooling. In secondary (6–10), girls constitute ~54% of enrolment, and women's literacy is now comparable to men's at the youth level. Transition from Primary to Secondary stands at 83.08%, on par with Pakistan's 83% to lower secondary and below India's 92.2%. However, secondary dropout is 32.85% (2023), indicating upper-grade attrition consistent with regional patterns. The facility coverage is almost universal, electricity 98.95, safe water 98.14, girls sanitation 94.91, and student/teacher ratio is approximately 1:34 in 2023.

Another characteristic is the scope of partnerships. Unicef, the Ministry of Education, and development partners (World Bank, ADB, UNESCO, bilateral donors) have aligned to mobilize System Transformation and Multiplier Grants through the Global Partnership for Education (GPE) (e.g., US$97.6m + US50m), and also non-formal and catch-up education (Unicef, 2024). The technical and vocational route has increased at a high pace: the number of TVET institutions grew to 7,761 (2021), compared to 2,317 (2003), and the number of TVET students to 1.16 million (BANBEIS, 2024) - expansion of post-secondary opportunities despite the challenge of overall higher secondary participation remaining a policy issue.

9) Cross-Country Synthesis Paragraphs: Where Pakistan Diverges—And Why It Matters

The tri-country comparison highlights three divergences. First, early-pipeline access: The OOSR in Pakistan (35%) is substantially higher than in India and Bangladesh (approximately 1%). Second, infrastructure and expansion: The urban facility dilution and rural consolidation in Pakistan have produced a quantity-quality mismatch, new urban locations often lack adequate services. In India and Bangladesh, this coverage is more stable. These data suggest that Pakistan needs to prevent further dilution by conditioning the site approvals on electricity, water, and sanitation facilities.

Third, student progression: The higher transition rates and low primary dropout rates in India align with targeted stipends (NMMSS), whereas Bangladesh implements broad partnerships and TVET capacity to support post-primary participation. Recent datasets rarely include stage-based annual dropout rates, thus, cross-country or inter-provincial comparisons become challenging. The frequently quoted 80% dropout before secondary is a signal of internal efficiency rather than a year-on-year dropout rate. The inclusion of standardized cohort-based dropout and transition rates (by province, sex, and urban/rural location), alongside clearly defined OOSR measures, would improve interpretability and strengthen policy targeting (MoFEPT, 2024; PIE, 2023).

A combination of these divergences suggests a stage-balanced approach: protect entry and primary retention (targeted cash/transport incentives, particularly for girls), ensure minimum infrastructure facilities in any expansion, and invest in transition packages at Grades 6-10, including adapted programs such as TVET on-ramps.

10) Recommendations

Policy And Governance Reforms

The most consistent recommendation in the literature is to increase the budget allocation for education (Asian Development Bank, 2022, Ahmed et al; 2014, Ahmed et al., 2021). At present, Pakistan's spending falls far below international standards, making enhanced investment essential. At the same time, political involvement in the education sector should be minimal (Ministry of Federal Education & Professional Training, 2024, Ahmed et al. 2014) to ensure unbiased policies and institutions. There is a need for uniform and targeted legislation (Ahmed et al., 2021) centering on specific problem areas (Gallup Pakistan, 2024). Coupled with this, local capacity gaps can be filled through better administrative and technical skills should be drawn attention to (ADB, 2022).

Gender-Oriented Interventions

Potential interventions to enhance girls' education comprise of constructing all-girls' schools, separate toilet facilities, provision of more trained female teachers, and ensuring safe transport (Aduka, 2017 as cited in Asian Development Bank, 2022). Manzoor et al. (2019) states that their main barrier to education is dropping out due to inability of schools as regarding handling of menstruation with facilities unfit for purpose. This is especially in rural and socially conservative areas with various barriers preventing girls' access.

Innovation And School-Level Measures

Innovative practices such as hybrid learning framework that integrate vocational skills into academic programs have been suggested (MoFEPT, 2024). For interim relief measures, upgrading existing primary schools to cover middle grades (6–8) and introducing multiple shifts are also recommended (ADB, 2022). Other school-level strategies include promoting a culture of research (Ahmed et al., 2014), implementing conditional cash transfer programs, and providing school lunch initiatives to improve nutrition and retention (ADB, 2022).

Quality Enhancement and Partnerships

Improving the quality of education requires regular evaluation of both curricula and teacher performance (Ahmed et al., 2014). Partnerships with the corporate sector have also been recommended (MoFEPT, 2024; ADB, 2022) as a cost-effective means of implementing targeted strategies, while simultaneously encouraging innovation and accountability in the system.

Region-Informed, Pakistan-Specific Actions

Immediate Expansion-With-Minimums Rule

Make site approval contingent on three utilities: electricity, safe water, and girls' sanitation. Tie constructions to completion certificates for these services. This prevents the urban coverage slide in Pakistan and preserves girls' attendance during rapid growth. This measure responds to evidence that urban schools grew far faster than their utility coverage, while rural mergers increased quality but cut the number of available school sites (Table 2A).

Lower-Secondary Retention Package (12–24 Months)

Pilot NMMSS-style scholarships at the primary Middle and Middle High hinges in low-income districts. Pair with safe transport (bus/van vouchers or school-managed routes). Target cohorts with substantial rise in middle-level female enrolment (+34% in rural areas) (Table 03), safeguarding minimum standards in all new sites is critical to prevent facility dilution from undermining these gains.

Vocational Education at the Stage of Higher Secondary

Following Bangladesh's expansion, co-locate short TVET modules with higher-secondary sites (evening or weekend sessions). Prioritize employability skills (basic ICT, electrical, auto-mechanics, hospitality) and female-friendly trades; align with district labor demand.

Middle-Entry Support & Teacher Training Plan

Another transferable lesson from Indian profile is stage-specific financing for Primary Middle transitions with transport stipends or fee waivers; replicate an NMMSS-style stipend (MEI, 2025) at Grade 6–10. The India profile also suggests that teacher training coverage near 90%+ (DSELI, 2025) is compatible with improved flows; Pakistan's upgrades should explicitly budget for pre-service and in-service training as integral to expansion.

Conclusion

Pakistan's education system has remained largely stagnant despite the considerable increase in educational institutions. The prospect of attaining the national literacy and participation targets continues to be hindered by rural and gender disparities. These differences stem from the disjointed policies, uneven allocation of resources, and numerous socio-cultural barriers. Comparison with India and Bangladesh demonstrates that Pakistan's problems are not unique; however, in Pakistan these challenges emerge earlier in the education system and become more intense at critical transition points between primary, middle, and secondary education. In recent times, modest progress has been observed in the areas with better access especially for girls at the middle educational levels. However, these improvements are vulnerable to inadequate infrastructure and facility gaps identified earlier.

These factors necessitate targeted investments in all regions and at every stage to reduce inequalities. Absent such measures, the risk of replicating the same shortcomings increases, leading to further decline relative to regional benchmarks. Enhancing initial retention, safeguarding minimum standards of infrastructure, reinforcing the lower-secondary transition, and increasing technical and vocational tracks are essential drivers of long-term educational improvement. To make long-term, inclusive educational improvements, both policy and school-level reforms, based on regional experience but tailored to the Pakistan context, are necessary.

Glossary

Out-of-School Children (OOSC)

Children of school-age who are not enrolled in any formal school.

Out-of-School Rate (OOSR)

OOSC ÷ total school-age population (here, ages 5–16), expressed as a %.

Dropout (before secondary)

Share of students who leave schooling before entering secondary grades (flow indicator).

Transition rate

% of students moving from one stage to the next (e.g., Primary→Middle) in a given year or cohort.

Progression rate

Sustained movement of a cohort across grades/stages without repetition or exit.

Stock and flow indicator

Stock = a level at a point in time (e.g., OOSR); Flow = movement/change (e.g., dropouts, transitions).

Pre-primary / Primary / Middle / High / Higher-secondary

School stages as used in Pakistan's system.

Urban / Rural (classification)

Administrative classification used in official education statistics (as per PIE/NEMIS).

Disaster Risk Reduction (DRR)

Policies and actions to reduce education disruption from hazards (e.g., floods).

SDG 4

UN Sustainable Development Goal on quality education.

MoFEPT

Ministry of Federal Education & Professional Training (Pakistan).

PIE

Pakistan Institute of Education.

NEMIS

National Education Management Information System

AEPAM

Academy of Educational Planning & Management.

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