GIRLS' RETENTION

THE IMPACT OF MISSING AND POOR PROVISION OF SCHOOL INFRASTRUCTURE ON GIRLS' RETENTION

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CONTENTS

1 EXECUTIVE SUMMARY

This is series of white papers dwelling into key challenges faced by girls, particularly of school going age, in education in the province of Balochistan. The intent is to understand the multi-faceted barriers, and to identify possible ways of addressing the barriers in consultation with the local community.

This is a five-part series, which each white paper focusing on one fundamental barrier, understanding its limitation in the local culture, value system, political context, availability/ positioning of resources and identifying its linkages to other barriers. The intent is to be able to delve deeper to capture everyday lives of the communities in the province, and seek their input into ways of addressing the longstanding challenges to girls' education.

This series of white paper will address the following supply and demand side barriers:

I. Access: Non-availability of educational institutes
II. Access: Distance to school matters
III. Girls' retention: the missing school infrastructure
IV. Shortage of female teachers: a recruitment and deployment lens
V. Quality: prioritising student learning

This white paper focuses on exploring the barriers faced by girls of school going age with respect to non-availability and/or an ad hoc provision to school infrastructure, at best. While the paper will elaborate on barriers identified by the local community with respect to girls' retention in post-primary schools, it will also contextualise why and what needs to be done.

The whitepaper is essentially divided in two parts: (a) initial deep dive into the challenge of 'ad hoc provision of school infrastructure' and its correlation with retention, and (b) chalks out possible pathways which can be adopted by the state and the community to facilitate adolescent girls' access to and retention in schools.

2 PREMISE: WHAT EXISTING DATA TELLS US

Access, retention, teaching and learning are pillars which form the basis of any educational system. Without student retention, desired educational outcomes and student learning cannot be achieved. Historically, schooling systems which focus on either of the above, instead of a holistic approach addressing each factor, have time and again failed to provide quality education to children. Access is only the first step towards getting children, particularly girls to school. What happens inside the school is a whole different ballgame directly impacting students' level of interest and educational attainment (UNESCO-IIEP, 2018).

Research from different countries suggests a strong correlation between conducive learning environment and student retention in schools, especially for adolescent girls (Bhunia, Shit, & Dubai, 2012; Akareem & Hossain, 2012; Marmoah, Adela, & Fauziah, 2019; Kok, Mobach, & Omta, 2011; Wagner, 2010).[1] A study carried out in South Asia established that schools which did not have a girls-only toilet, caused girls' drop out of school on the onset of mensuration (Narayan, Rao and Khan, 2010).

For girls to transit from primary to post-primary schools, plethora of school-centered, community-level and household-level bottlenecks come into play. However, the most crucial are the ones which form the basis of 'school readiness or preparedness beyond primary education'. Adolescent years are critical for all children, more so for girls. It is a time of major transitions: from being a girl to being a woman, from primary to secondary education, and from being a carefree child to sharing household responsibilities. More often, this transitioning period is made more challenging with possibilities of over burdening of house chores, forced early marriage, and dropping out of school.

[1] Table showing research question and summary finding for each report is included in Annex.

For girls to transit to post-primary schools smoothly, and to ensure they continue, provision of gender-sensitive WASH facilities is crucial. Proper sanitation facilities in girls' post-primary schools have proven to positively impact girls' access, attention, retention [and learning] in school (The World Bank, 2003).

A qualitative study carried out by The World Bank in Punjab shows that attendance of girls tripled in schools with proper classrooms and saw a 13% increase in girls' enrollment with availability of drinking water.[2] Punjab Education Sector Reform Program is reported to have allocated 60% of its school infrastructure related budget to girls' school facilities, prominently provision of toilets (UNESCO, UNGEI, 2015).[3]

Balochistan has made significant effort and investment to uplifting the provision of basic facilities in schools in the last decade. However, it is far from achieving its goal.

Based on Balochistan Education Statistics 2016-17:

- 45% of government girls' schools do not have drinking water
- 59% of government girls' schools do not have functional toilets
- 38% of government girls' schools do not have boundary walls

Furthermore, the available teaching staff comprises of 34.5% women and 65.5% men. Among the teaching staff, below is a snapshot of female teachers who are given any in-service training support. Additionally, Balochistan Education Sector Reform Plan 2020-25 acknowledges shortage of female subject specialists in each district of the province.

Non-availability of educational institutes for girls, long distance between homes and girls' post-primary schools (also known as distance penalty in literature), and the lack of provision of basic infrastructural facilities in schools are all supply-side barriers restricting girls' education in Balochistan at different tiers.

The Secondary Education Department has taken initiatives to improve school infrastructure, however, the efforts have largely remained unplanned and donor-driven. The decisions about school infrastructure and its related investments have historically been made under a politically influenced, uncoordinated and centralized model, driven by ad hoc needs, rather than a strategic coordinated approach.

[2] World Bank. 2015. Punjab Primary Education: Expenditure and Quantity of Service Delivery Survey
[3] UNESCO-IIEP. 2015. Policy toolbox. School Infrastructure

2 METHODOLOGICAL APPROACH

The conceptual underpinning of this white paper is based on insights from an extensive review of literature comprising of existing frameworks addressing girls' challenges to education, policy and practice from across the globe. It also includes an in-depth analysis of the existing data plus research available in context of Balochistan.

The white paper builds on existing publicly available datasets informing the existence of in-school and outside-the-school barriers to girls' education in Balochistan. Findings from these datasets and research studies are used as inputs to design the framework of primary data collection from selected districts in Balochistan. Primary data was collected with the objective of understanding local populations' thought-process regarding challenges identified in the desk review.

2.1 Secondary literature source and data sets' review

This section comprises of two types of analysis: theoretical underpinning and exploring existing datasets.

Through the literature review, barriers which exist at the individual, household, community, school or policy levels were identified. These were drawn from the work of UNICEF, UNESCO, the Global Partnership for Education and the United Nations Girls' Education Initiative and the Malala Funds' barriers to girls' education reports and frameworks to collate a longlist of barriers that exist (UNICEF, 2002;[4] Albright, 2016;[5] Antoninis et al., 2018;[6] UNESCO 2018;[7] Malala Fund, 2020).[8]

[4] Barriers to Girls' Education: Strategies and Interventions. (2002). Teachers Talking about Learning
[5] Albright, A. (2016). Five Barriers That Keep Girls Out of School – Women Deliver
[6] Antoninis, at el. (2018). Meeting our commitments to gender equality in education
[7] UNESCO (2018). Meeting commitments to gender equality in education, Global Education Monitoring Report
[8] Malala Fund. (2020). Building back equal: girls back to school guide

In addition to the theoretical literature review, three datasets have been extensively explored to identify indicators and contributors to major barriers outlined in the first section. Below is a snapshot of the datasets explored:

- Pakistan Social and Living Standards Measurement Survey (PSLM) is conducted once every two years by the Pakistan Bureau of Statistics, with analysis at the provincial and at the district levels in each alternate iteration
- Balochistan Education Management Information System (BEMIS) manages the monitoring and real time data collection for government schools and colleges in Balochistan. It also conducts private school census
- Population & Housing Census 2017 provides us with the exact number of children in each age cohort at the tehsil level

2.2 Primary data collection

Pak Alliance for Maths and Science collected primary data from five districts: Pishin, Killa Abdullah, Chaghai, Kharan and Nushki. The framework and design of the data collection tools[9] was structured to understand the reason(s) behind commonly reported symptoms of barriers, and recording community's input on how to address them.

The team deployed a mix-methods approach to collect qualitative and quantitative information from each district.

[9] Note on primary data collection and tools is provided separately

Below is a snapshot of the stakeholders' engagement matrix.

District level stakeholders

Stakeholders	Data collection instrument	
	Focus group discussion	Key informant interview
Out of school adolescent girls	✓	
Parents/ community members	✓	
Head Teacher of government girls school		✓
Teacher of girls' community school		✓
Local leader / Head of Jirgah		✓
Local activist / social mobiliser		✓
District Education Officer or Deputy		✓

Provincial level stakeholders

Stakeholders	Data collection instrument	
	Focus group discussion	Key informant interview
Secondary Education Department, Government of Balochistan		✓
Social Welfare Department, Government of Balochistan		✓
Donors and civil society players: • JICA • UNICEF • SCSPEB		✓

The table below gives summary states of the field outreach in five districts:

Primary data collection – Focus group discussions

Stakeholders	Participants
Adolescent out of school girls (age 10-20 years)	72
Parents/community members	115

Primary data collection – Key informant interviews

Stakeholders	Participants
District	36
Province	11

2.3 Frame of analysis

Balochistan's data collection regime in education has significantly improved in the last 7 years. However, it continues to largely focuses on collecting quantitative information in a consistent manner. Hence, unable to understand the reason(s) behind the reported quantitative data. While it is utmost important to be collecting consistent data, it is equally crucial to deconstruct what is being reported.

This series of white papers intend to take a deep dive at the key barriers reported and attempts to understand the local area-specific challenges and thought-process of the communities, which is currently missing from the statistical year on year reporting.

This series of white papers follow the below mentioned method to analyse the existing and primary data collected from the field:

01

Desk review
Utilising existing knowledge/data to narrow down *fundamental* barriers to girls education in Balochistan

02

Primary data collection Developing tools for direct engagement with key stakeholders in specific districts (of Balochistan), to understand the reasons behind already-known barriers

03

Triangulating the response
Develop a nexus of understanding the local needs, correlating evidence and best practices, and preparing a menu/combination of recommended pathways to address specific *fundamental* barriers in each of the white paper

Once the data from the field and the desk review is triangulated, common themes are identified. These themes are cross analyzed to answer some of the gaps identified in the desk review.

The preliminary findings of the triangulated barriers are than used to prepare for specific key informant interviews seeking ways to address the challenge at hand.

3 INFRASTRUCTURE BARRIERS

The section focuses on key infrastructural barriers which restrict girls from continuing their education. Of every 100 female students enrolled in primary (Grade 1) in Balochistan, only 44 are enrolled in Grade 5.[10] The survival rate takes a steeper dip in middle and high schools for girls. While multiple cross-cutting factors influence girls' enrollment in post-primary schools, retention remains a challenge.

School building, classrooms, boundary wall, functioning toilets, drinking water, and provision of science laboratory are among some of the basic infrastructure facilities within a school which impact the overall learning environment. While provision of in-school facilities impact boys and girls equally, some physical and service related infrastructure is crucial to girls' retention in post-primary schools. This section will discuss both types of barriers and its impact on girls' retention.

3.1 Physical infrastructure

3.1.1 Boundary walls

Security and safety of adolescent girls enrolled in post-primary schools is a major parental concern. Lack of complete boundary walls and/or non-gated post-primary schools for girls cause girls to drop out of school. In majority of rural areas of Balochistan, the concept of 'pardah' for women and adolescent girls is a mandatory aspect of the everyday life, and hence must be taken into account while planning educational facilities for girls.

[10] Balochistan Education Statistics, 2016-17
[11] This was highlighted as a major barrier by the field team from Killa Abdullah

In specific districts of Balochistan where security concerns are higher due to insurgency and other conflict, lack of provision of security guards for girls' post primary schools was also identified as barrier.[11]

3.1.2 Functional toilets

Non-availability or non-functional toilets in girls' post-primary schools are a major concern for adolescent girls. This results in two basic issues:

In government schools where no functional toilet is available, students have no choice but to use toilet facilities at neighboring houses, which becomes a point of concern for most of parents

Sizeable women population do not have access to sanitary napkins. They use cloth that is washed after every use. Hence, functional toilets with running water in post primary girls' schools are critical. Adolescent girls enrolled in schools which do not have functional toilets, stay home during menstrual cycle to avoid any mishap, and miss school causing loss of learning

"The district and cluster in charge should consider the important aspects for girls while allocating the budget in repair and construction [only]. Budget of school should consider toilets for females with mensural hygiene management facilities as part of construction"

– Gul Nisa, Deputy District Education Officer, Chaghai

3.2 Services' infrastructure

The second aspect of infrastructure delivery is services' infrastructure which acts as barriers to girls' education, specifically for post-primary schools. These service-delivery aspects are specific to girls' enrollment, retention, participation and long-term educational attainment.

3.2.1 Shortage of female teachers

Presence of female teacher(s) in post-primary girls' schools is culturally seen as a sign of safety for adolescent girls' where parents are more confident to enroll girls and community members are open to the idea of girls' education when the interaction of adolescent girls with 'non-mehram' is limited. Primary data further informs that adolescent girls find it easy to 'connect' with a female teacher and are more involved with the learning content in comparison to a male teacher.

3.2.2 Subject offerings in post-primary educational institutes

Qualified female teachers, especially subject specialists are hard to find, particularly in rural and remote areas. As per recruitment policy, each high school has sanctioned subject specialists posts. However, not all posts are filled. Due to non-availability of qualified female teachers, these posts in schools situated in rural and remote settings, remain vacant. Invariably, availability of subject specialists dictates the subjects offered by the post-primary schools.

If a female science teacher is not appointed in the school, there are higher chances of the school not offering science subjects, or science subjects being taught by a non-specialist teacher who cannot develop students' conceptual understanding. Hence, students enrolled in a school with no-subject specialist are more likely to score less in the summative exams, thereby, falling low of the criteria to pursuing further studies in science or STEM careers, which are often high rewarding.

This systemic barrier of service delivery skewed against girls, in return, discourages new enrolment (and retention) given the limited scope of opportunities for girls with respect to income generation or employment. Girls graduating from schools not having studied science-subjects or attaining lower than the required merit will ultimately choose non-science subjects in college and university education. Thereby, adding to the dearth of local female subject specialists. This vicious cycle of education deprivation is reflected in the low female literacy ratios, especially among rural females.

3.2.3 Neglected teacher support mechanism

While continuous professional development (CPD) support is part of teacher's capacity building trajectory, lack of content-specific guidance and infrequent training(s) have a direct bearing on teachers' command on the content to be taught, and is ultimately reflected in student scores. Primary data collected from five district shows that parents assign importance to what their child(ren) are learning in school. Voice of Teachers (2014), a study published by Alif Ailaan, found informal peer learning to be the most common medium of learning among teachers. Teachers reported that while some can visit other schools to network and learn from each other, many seem to exchange knowledge via mobile phones.

Culturally, men in the Baloch and Pashtun communities are able to meet informally in the evenings. However, women's physical mobility still remains restricted; thereby limiting female teachers' access to guidance and support only to the pool of teachers in the same school or in rare cases via telephone calls and WhatsApp. However, this exchange is ad hoc.

3.2.4 Rigid school timing

Lack of understanding or acknowledgement of action at the planning and governance level within the Secondary Education Department, regarding existing cultural gender roles and responsibilities is another barrier to girls' access to schools. Data collected from the field indicates specific timings during the day which engage girls (and women) in house chores and/or care-related work at home.

Adolescent girls, often the eldest daughters, assist mothers or other elderly women at home with breakfast, cleaning, cooking and other chores during the early hours of the day, which clashes with the regular school time.

This results in the two situations: (i) consistently arriving to school late and low on energy, and (ii) eventually dropping out of school.

4 RECOMMENDATIONS - WHAT NEEDS TO BE DONE

Secondary Education Department, Government of Balochistan has made strides in increasing the provision of physical infrastructure in schools in the last seven years. However, that push has remained one dimensional with focus on delivering physical infrastructure only, that too on ad hoc basis.

Policymakers need to increasingly link provision of physical infrastructure with quality, retention and service-delivery. Like many other countries in their infancy to reform education, Balochistan has also used a fragmented or piecemeal approach to address the challenge of basic facilities.

Recommendations proposed in this section are linked to the barriers explored in the section above, while realizing other infrastructural and service delivery issues have to be kept in mind while designing holistic contextualized solutions.

4.1 Gender responsive budgeting

Post-primary schools, especially girls' schools, are in dire need of gender responsive budgeting. In addition, post-primary schools for girls should have a portion of budget marked as flexible, which should be at the discretion of the head teacher to utilise based on any context-specific need identified by students or community members.

"A school or cluster's budget is based on the number of enrolled students. But if we make the budget more gender responsive, then we can look at specific needs of girls and female teaching staff and allocate funds to address them."

Abdul Manan, Deputy District Education Officer, Killa Abdullah

Global evidence

	Key features	Successes	Lessons learnt
Flexible Response Fund, Aga Khan Foundation, Afghanistan	Part of Girls' Education Support Program 53 districts in Afghanistan 216 government schools Multi-input Area Development Approach – community engagement, market development, CSOs, infrastructure, health and education Flexible Response Fund (FRF)	Flexible Response Fund allocated for each girls' school to curtail challenges around: 1)Low enrollment, graduation, and entrance exam for university 2)Reducing barriers through improved infrastructure The FRF was kept flexible to address context specific needs, which are different from school to school and community to community School staff was able to modify the use of fund for various needs in collaboration with community members Fund primarily used for transportation, accommodation, hiring of teachers, and improving physical environment for girls and teachers. The FRF was also utlised beyond the scope of the schools'-delivery i.e. to prepare students to sit for university preparatory exams	Communities which are deprived, intervention needed to be adjusted to include girls' and boys' schools, both With the facilitation of entry exam for universities, a pool of qualified teachers was available within the community in a few years to teach at the government school Increasing capacity of local under resourced teacher is more beneficial in the long term compared to outsourcing teachers who fill in the position for a temporary period.

Recommended pathways

School-heads or cluster-heads, especially at the post-primary level, should have the flexibility to appropriate a portion of the school funds to need-based specific service or physical or service' infrastructure related barriers to girls' education. This could include provision of hiring a security guard, completing a boundary wall, improving toilet facility, making arrangements for health and sanitation of adolescent girls, hiring a temporary female teacher to support the male-appointed-teacher(s) in post-primary schools, or any other context-specific related arrangement.

"In specific communities in our district, at times, a very small issue becomes a matter of withdrawal of daughter(s) from school. For example, in security sensitive areas, parents would only send their daughter(s) to school if there is a security guard appointed at the school gate. However, there is no such provision of hiring a security guard in government schools and hence parents do not send their daughter(s) to school. Only those who can afford then send their daughters to private schools where they have guards at the school entrance"

Noor Ullah Khan, social activist, Killa Abdullah

Balochistan Education Sector Plan 2020-2025 talks improving 'efficiencyof cluster based procurement; develop and notify a well-thought-out formula for the distribution of allocated funds among clusters and among feeder schools within clusters; and amend the notification on Clusters to empower cluster heads to re-appropriate budget from one to another head'.

4.2 Addressing teacher-gap: linking schools and higher educational institutes

This is a short term redressal recommendation to address the shortage of female teachers in the system. Drawing from existing models like Teach for Pakistan, fresh female graduates, having completed bachelors in any discipline, should be placed in government girls' schools on temporary contractual position.

This is envisioned as an inter-departmental exchange of resources among state institutes (Secondary Education Department and Higher Education Commission) which reduces significant time, cost and effort to seek out external approvals if a third-party organization was to be engaged. The intended exchanged would address two issues: increase immediate employability of graduating females, and addressing the issue of supply of female teachers.

Evidence from secondary and primary data on this recommendation is included in the white paper titled 'shortage of female teachers: a recruitment and deployment lens'.

Balochistan Education Sector Plan 2020-2025 only talks about 'recruit(ing) graduates from the universities and colleges managed by the Department of Higher Education (to) provide pre-service teacher education for the supply of adequately trained teachers from next year.' It also suggests to 'prioritise development and recruitment of science, mathematics, IT and language teachers, especially, for females for post primary classes as a priority'.

4.3 Addressing teacher-gap: female teachers' accommodation and transport

Supplementing the stop-gap arrangements such as appointing contract-based fresh graduates, more long term arrangements have to be put in place simultaneously to grapple this ever existing problem. Female teachers from urban-locations have to be facilitated to take up teaching positions in rural and remote areas of the district.

Primary data collection from five districts informs that there are two key determinants of female teachers shifting to remote and rural villages: (i) provision of accommodation, and (ii) transport facility.

The interviewed teachers suggested that a minimal increase in salary without accommodation or transport facility makes the position in rural and remote villages unattractive.

Furthermore, they added that teachers who are appointed from surrounding villages prefer the arrangement for a safe medium of transport rather than a commute allowance where they have to end up making commute-related arrangements.

Global evidence – incentivizing teachers in remote and rural areas

Country	Nature of incentives offered for posting in difficult areas
Mozambique	As per state policy, schools are divided into four zones: urban to most isolated schools. Depending on the zone, teachers are given a salary bonus. Isolated schools have a higher salary bonus compared to urban schools. Bonus payment could be up to 100% especially for highly qualified teachers
Lesotho	As per state policy, hardship allowance is given at a flat rate to teachers taking up positions in mountain area
Uganda	Hardship allowance of 20% of basic salary for 'hard-to-reach' areas
Malawi	Provision of housing for female teachers who take up position in rural areas
Tanzania	Teachers had the option of taking rural-teacher housing for working in remote or difficult areas
Australia	Rural Experience Program (NSW) gives a $500 allowance at the time of placement, and $500 per week in addition to their regular basic salary. Accommodation options are shared with the teacher by Principal of the school prior to joining, with the final selection to be done by the teacher. A separate subsidy is offered to teachers taking up positions in rural areas under the rural rental subsidy. However, the two cannot be availed at the same time.[12]

Recommended pathways

The provincial government needs to devise a plan to incentivize female teachers from surrounding / neighboring areas districts where there is significant shortage of female teachers, hindering basic operations of existing schools.

The incentive plan should be devised for two different types of audience:

- teachers from neighboring villages who require daily commute arrangements, and
- teachers from urban-center who will need to relocate to remote areas.

[12] Rural Experience Program Guidelines. New South Wales. Australia

4.4 Peer-learning networks for teachers

In addition to the formal teacher support mechanisms offered by the state in the form of regular trainings, teachers claim that they learn the among peers. A research study conducted by Alif Ailaan in 2014, Voice of Teachers, highlighted that teachers' maximum learning takes place through informal peer to peer exchange of information.

Teachers find it less time consuming and more effective to seek guidance, informally, from other teachers.

State-facilitated training programs are once in a few years' opportunity that only selected teachers get to enjoy. Balochistan piloted a unique model of Cluster based mentoring for teachers in early 2000s.

From 2003-2006/7, under USAID funded Education Sector Reform Assistance Program, five districts in Balochistan were engaged in a Cluster based Mentoring Program (CBMP), among other components.

CBMP provided in-service support to teachers by establishing 'professional development forms' at the district level, and 'teacher resource center' at the cluster and Union Council level.

Teaching mentors in each cluster would provide in-service support and guidance to government school teachers on rotation basis. The experts'/teaching mentors were available for Mathematics, Science, Social Studies and Languages.

The program successfully trained a pool of 1,195 teaching mentors (66 male, 26 female) in Gwadar, Turbat, Killa Saifullah, Nushki and Chaghai.

Source: USAID, AKU-IED & Secondary Education Department

Recommended pathways based on evidence and research

For content specific guidance and support, female peer-learning networks (formal or informal) should be established at cluster level, where a pool of experienced and qualified teachers for Mathematics, Science and languages are nominated, and tasked with the responsibility of guiding and supporting other female teachers in the enactment area.

Balochistan Education Sector Plan 2020-2025 talks about 'encouraging institutionalized peer-learning processes'. This includes 'Develop(ing) guidelines for head teachers and other supervisors to organise peer learning sessions based on local needs; review the guidelines in consultation with teachers; and notify, implement and monitor guidelines for peer learning sessions'.

4.5 Design need-based flexibility in school time

Cultural norm and contextual variations should be part of the policymakers' thinking processes and should reflect in policy reforms. Balochistan is a province with complex demography and hence requires unconventional approaches and innovative flexibility to ensure access to girls' education.

UNESCO proposed a module of 'Flexible Learning Strategies (FLS)' for address the issue of out of school children and youth. FLS build on providing education to students, rather than fixating on school and school timings.

In context of Balochistan, schools which have adolescent girls and teachers attending school from surrounding villages, should be allowed flexibility in school timing. Cluster head should conduct an evaluation of girls' post primary schools in the cluster and allow a school time that facilitates students and teachers commuting from nearby villages. The flexible-school-time model is adopted by the Non-Formal and Community Schools across the province. The customized school time (morning or afternoon) is appreciated by community members.

Adolescent girls part of the focus group discussions in all five districts mentioned that they have to help with household chores on daily basis. No consensus was derived on which school timing works better (morning or afternoon). However, it was appreciated that the community schools had flexible timings and accommodated majority of the students.

6 ANNEXURE

Author and Year of Publication	Title	Country	Methods	Sample	Findings
Gouri Sankar Bhuni, Pravat Kumar Shit, & Soumen Duary (2012)	Assessment of School Infrastructure at Primary and Upper Primary Level: A Geospatial Analysis	India	Quantitative	670 schools	Based on this research, the use of the SSA system to improve infrastructure shows that Geo-informat technology is a powerful tool for assessing infrastructure development zones, based on the relevant decision-maker can formulate an efficient basic infrastructure development plan for the area that can be achieved
Husain Salilul Akareem & Syed Shahadat Hossain (2012)	Perception of education quality in private universities of Bangladesh: a study from students' perspective	Bangladesh	Quantitative	400 schools	Findings from research at private Universities in Bangladesh indicate that the quality of education greatly influences the characteristics of students. There is a strong correlation between the quality of education and student characteristics.
Sri Marmoah, Dhea Adela, Muna Fauziah (2019)	Implementation of facilities and infrastructure management in public elementary schools	Indonesia	Qualitative	N.A	Based on the results of research on the implementation of management facilities and infrastructure at Bakipandeyan Elementary School, the school has implemented it well through three stages: (1) Procurement of facilities (2) Utilization and (3) Maintenance of facilities and infrastructure.
Herman B. Kok, & Mark P. Mobach, Onno S.W.F. Omta (2011)	The added value of facility management in the educational environment	Netherlands	Qualitative	N.A	The results of this study indicate that facility services can directly influence the educational process
Daniel A. Wagner (2010)	Quality of education, comparability, and assessment choice in developing countries	United States of America	Qualitative	N.A	The results showed that, most development institutions have begun to emphasize improving the quality of education. This review is paralleled by a significant increase in the use of educational quality assessments as a way to measure gains and losses.

Source: Extracted from 'School Facilities and Infrastructure Management in Improving Education Quality', 2021

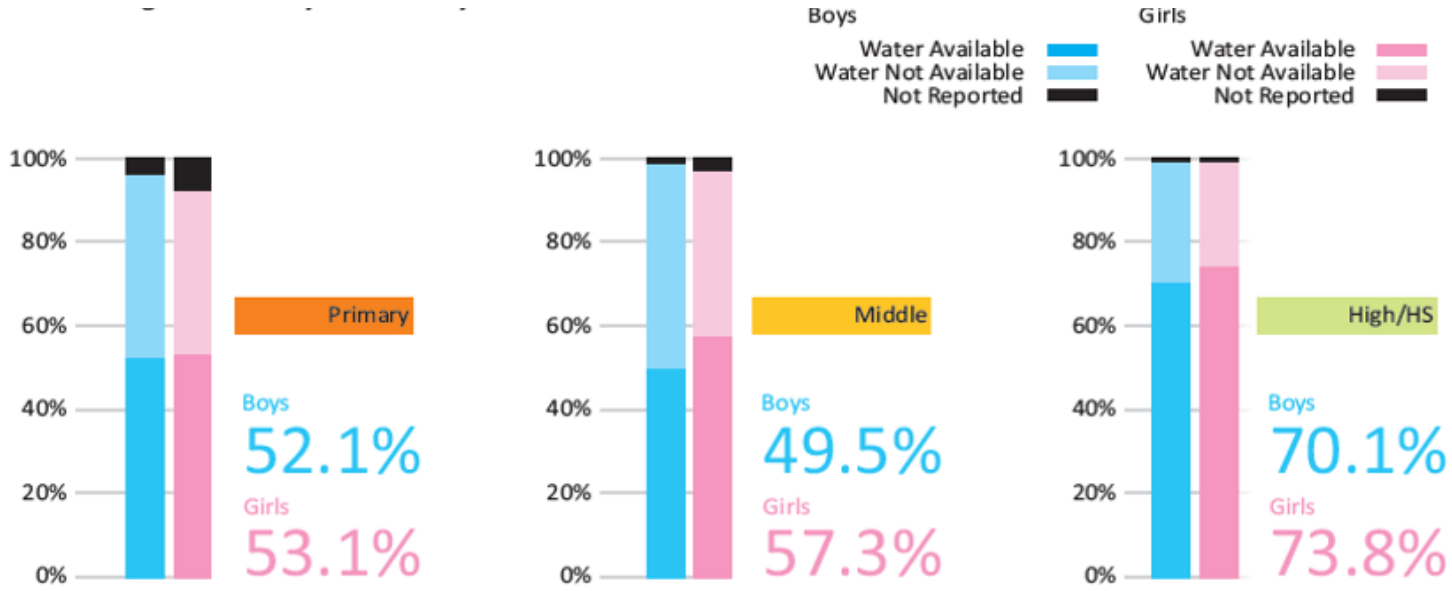

Image 1: Percentage availability of water by level and gender

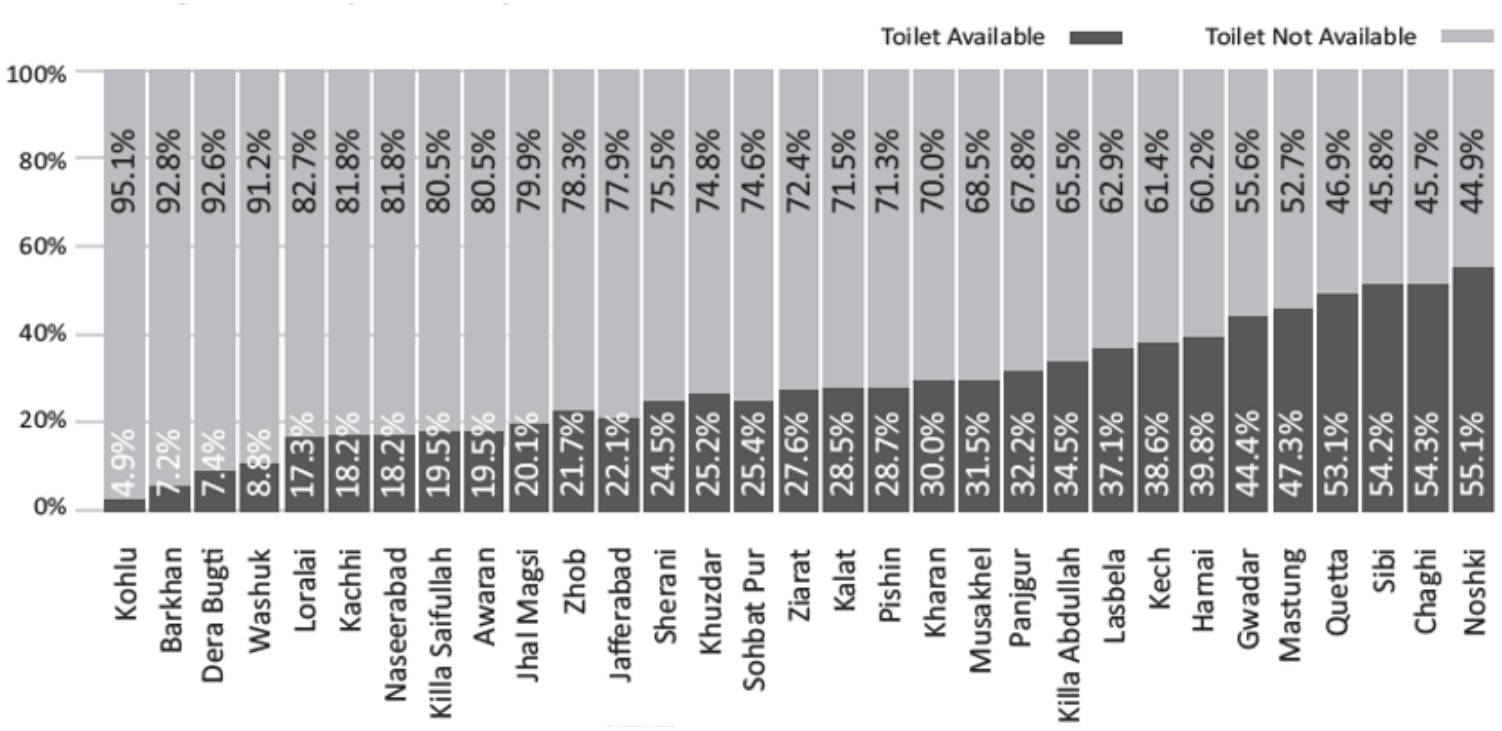

Image 2: Percentage availability of toilet, by district

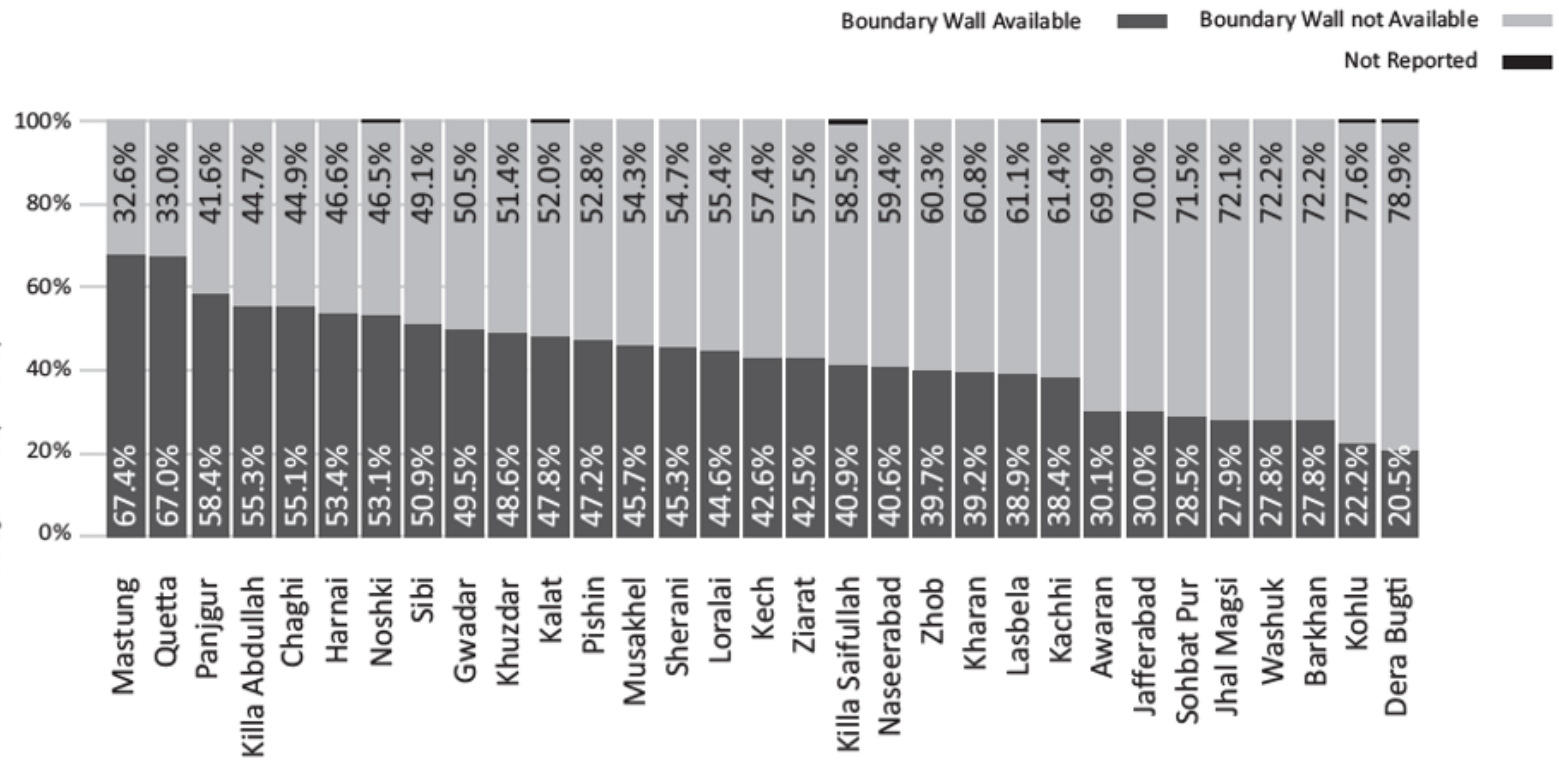

Image 3: Percentage availability of boundary wall, by district

7 BIBLIOGRAPHY

Akareem, H. S., & Hossain, S. S. (2012). Perception of education quality in private universities of Bangladesh: A study from students' perspective. Journal of Marketing for Higher Education, 22(1), 11–33. https://doi.org/10.1080/08841241.2012.705792

Southern Africa Regional Office, U. E. (n.d.). Transition to Post-Primary Education with a Special Focus on Girls. Retrieved January 5, 2022, from www.ADEAnet.org

BALOCHISTAN EDUCATION STATISTICS 2016-2017. (n.d.). Retrieved January 5, 2022, from http://emis.gob.pk/Uploads/BalochistanEducationStatistics/Balochistan_Education_Statistics_2016-17.pdf

Birdthistle, I., Dickson, K., Freeman, M., & Javidi, L. (2011). What impact does the provision of separate toilets for girls at schools have on their primary and ... secondary school enrolment, attendance and complete. https://www.researchgate.net/publication/232398014_What_impact_does_the_provision_of_separate_toilets_for_girls_at_schools_have_on_their_primary_and_secondary_school_enrolment_attendance_and_completion_A_systematic_review_of_the_evidence

Bringing back hope through WASH in Schools. (n.d.).

Destefano, J., Moore, A.-M. S., Balwanz, D., & Hartwell, A. (2007a). Reaching the Underserved: Complementary Models of Effective Schooling. http://www.equip123.net

Destefano, J., Moore, A.-M. S., Balwanz, D., & Hartwell, A. (2007b). Reaching the Underserved: Complementary Models of Effective Schooling. http://www.equip123.net

Development Bank, A. (2019). SCHOOL EDUCATION IN PAKISTAN: A Sector Assessment School Education in Pakistan. https://doi.org/10.22617/TCS190039 Education Sector Reform Assistance (ESRA) Program End-of-Project Report. (2008).

Government of the Punjab Technical Education & Vocational Training Authority Curriculum for. (n.d.). Interventions for Girls Education - Part 4: Making Schools More Girl-Friendly. (n.d.).
Retrieved February 14, 2022, from https://www.fawco.org/global-issues/target-program/education/blog-let-s-get-schooled/3997-interventions-for-girls-education-part-4-making-schools-more-girl-friendly

Hussain, R., & Ali, S. (n.d.). Improving public school teachers in Pakistan: challenges and opportunities. https://doi.org/10.1177/1365480209352404

Marmoah, S., Adela, D., & Fauziah, M. (2019). Implementation of facilities and infrastructure management in public elementary schools. AL-TANZIM: JURNAL MANAJEMEN PENDIDIKAN ISLAM, 3(1), 102–134. https://doi.org/10.33650/AL-TANZIM.V3I1.507

Meher, R., Ummulbanin, A., & Mursaleen, G. (2007). Teacher mentoring programme: A vehicle to support professional development for improving the quality of education in Districts of Sindh and Balochistan of Pakistan. http://ecommons.aku.edu/book_chapters/82

Naveed, S. (n.d.). The importance of educating girls in the Newly Merged Districts of Khyber Pakhtunkhwa, Pakistan. Retrieved January 5, 2022, from www.brookings.edu/echidna-global-scholars-program.

Ndirangu, M., & Udoto, M. O. (2011). Quality of learning facilities and learning environment: Challenges for teaching and learning in Kenya's public universities. Quality Assurance in Education, 19(3), 208–223. https://doi.org/10.1108/09684881111158036

NAVTTC to introduce Matric-Tech in schools. (n.d.). Retrieved February 14, 2022, from https://www.thenews.com.pk/print/601883-navttc-to-introduce-matric-tech-in-schools

PAKISTAN EDUCATION STATISTICS 2017-2018. (n.d.).
Sankar Bhunia, G., Kumar Shit, P., & Dubai, S. (2012). Assessment of School Infrastructure at Primary and Upper Primary Level: A Geospatial Analysis. 04(05), 412–424. https://doi.org/10.4236/JGIS.2012.45047

Rural Experience Program Guidelines. (n.d.). Retrieved February 14, 2022, from https://education.nsw.gov.au/about-us/careers-at-education/scholarships-and-programs/rural-experience-program/rural-experience-guidelines#8.7

Santika, F., Pangestu, U., & Nurahlaini, M. (2021a). School Facilities and Infrastructure Management in Improving Education Quality. International Journal of Research and Innovation in Social Science, 2454–6186. www.rsisinternational.org

Santika, F., Pangestu, U., & Nurahlaini, M. (2021b). What impact does the provision of separate toilets for girls at school have on their primary and secondary school enrolment, attendance and completion?. International Journal of Research and Innovation in Social Science, 2454–6186. www.rsisinternational.org

Scholarlycommons, S., & Wagner, D. A. (2010). Quality of Education, Comparability, and Assessment Choice in Developing Countries. Journal Articles (Literacy.Org, 33. https://repository.upenn.edu/literacyorg_articleshttps://repository.upenn.edu/literacyorg_articles/33

Vazir, N., & Meher, R. (2010). Mentoring in teacher education: Building nurturing contexts and teaching communities for rural primary school teachers in Sindh, Pakistan. Pakistan. Journal of Educational Research, 13(1), 123–143. http://ecommons.aku.edu/pakistan_ied_pdck

INTERNATIONAL RESCUE COMMITTEE

GIRLS' RETENTION

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