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# BRIDGING THE GAP: STAKEHOLDER PERSPECTIVES ON EDUCATIONAL REFORMS, GEOGRAPHIC DISPARITIES, AND GENDER INEQUITIES IN POST-CONFLICT SOUTHERN KHYBER PAKHTUNKHWA

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#### Abstract

This study evaluates the implementation of the Elementary and Secondary Education Improvement Initiative (2015–2022) in southern Khyber Pakhtunkhwa (KP), Pakistan, through stakeholder perspectives on teacher recruitment, infrastructure, curriculum, and monitoring systems. Employing a quantitative descriptive design, data were collected from 285 stakeholders, including District Education Officers, principals, and teachers across four districts. Findings reveal perceived improvements in merit-based teacher recruitment and infrastructure upgrades, particularly in sanitation and laboratory facilities. However, remote areas faced persistent challenges, such as inconsistent access to teacher training, logistical hurdles in textbook distribution, and technical limitations hindering biometric monitoring systems (IMU). Curriculum reforms were critiqued for neglecting local cultural and linguistic contexts, widening rural-urban disparities. Gender and geographic inequities emerged prominently: female stakeholders reported lower satisfaction due to socio-cultural mobility barriers, while infrastructure quality varied significantly between districts (e.g., Bannu outperforming DIKhan). The study underscores the need for decentralized, participatory reforms that prioritize localized adaptations, gender-sensitive strategies (e.g., safe transportation for female teachers), and strengthened administrative coordination to enhance monitoring systems like EMIS. By addressing structural gaps in implementation and fostering community engagement, this research advocates for equitable, context-driven policies to advance sustainable educational development in KP's post-conflict, resourceconstrained settings.

**Keywords:** Educational Reforms, Stakeholder Perceptions, Geographic Disparities, Gender Inequities

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#### INTRODUCTION

Education serves as a cornerstone for socio-economic development, yet Pakistan's education system has long grappled with systemic challenges such as low literacy rates (44% in KP vs. 65% nationally), insufficient infrastructure, and regional disparities (UNDP, 2021; KPESE, 2022). Khyber Pakhtunkhwa (KP), a province marked by cultural complexity, post-conflict recovery, and geographic remoteness, faces amplified hurdles. Over 30% of its schools lack basic facilities like electricity and boundary walls, while teacher absenteeism and gender disparities persist, particularly in rural southern districts (Javed & Hussain, 2021; Alam & Babar, 2020). To address these issues, the KP government launched the Elementary and Secondary Education Improvement Initiative (2015–2022), focusing on reforms in teacher recruitment, curriculum modernization, infrastructure upgrades, and monitoring systems like the Independent Monitoring Unit (IMU) and Education Management Information System (EMIS). While prior studies have examined earlier reforms (e.g., Fazal et al., 2014), limited research evaluates the post-2015 initiatives, particularly in southern KP, where implementation challenges—such as political interference and fragmented stakeholder collaboration—remain understudied (Zahid & Anwar, 2023; Idrees et al., 2021).

Despite significant investments in educational reforms, KP's southern districts continue to report stagnant literacy rates (37%) and high dropout rates (22%), raising concerns about the efficacy of recent initiatives (KPESE, 2022). A critical gap exists in understanding how these reforms are perceived by stakeholders responsible for their execution. For instance, while meritbased teacher recruitment via the National Testing Service (NTS) aims to curb nepotism, studies highlight inconsistencies in training and retention of qualified educators (Aslam & Kingdon, 2011; Ullah et al., 2020). Similarly, the IMU's biometric systems, designed to reduce absenteeism, face resistance due to inadequate technical support in remote areas (Khan, 2013). Furthermore, curriculum revisions intended to align with global standards often overlook local cultural contexts, exacerbating disparities in student engagement (Hameed & Tariq, 2021). These challenges reflect a broader disconnect between policy design and grassroots implementation, compounded by a lack of multi-stakeholder feedback (Fullan, 2001; Adelman & Taylor, 2007). Existing literature predominantly evaluates reforms through macro-level metrics (e.g., enrollment rates), overlooking stakeholder perspectives critical for sustainable change (Fullan, 2001). Few studies examine post-2015 initiatives in southern KP, where geographic and socio-cultural barriers amplify implementation challenges (Idrees et al., 2021). This study addresses these gaps by analyzing multi-stakeholder insights on teacher recruitment, infrastructure, curriculum, and monitoring systems, offering a nuanced understanding of reform efficacy in resource-constrained, post-conflict settings. This study addresses the following central research question:

How effectively have the Elementary and Secondary Education Improvement Initiatives been implemented in the southern districts of Khyber Pakhtunkhwa, Pakistan, as perceived by key stakeholders?

This research offers three key contributions. First, it provides empirical evidence on the post-2015 reforms' effectiveness in southern KP, a region underrepresented in literature dominated by urban-centric studies (Jamil et al., 2021; Shahid & Malik, 2022). Second, it highlights discrepancies between policy intent and stakeholder experiences, emphasizing the role of bureaucratic inertia and socio-cultural barriers—factors often marginalized in top-down reform models (Grindle, 2017; Fullan, 2001). For example, while 78% of stakeholders reported improved infrastructure, 62% cited delays in EMIS data dissemination, undermining evidence-based planning. Third, the study proposes a participatory framework for reform adaptation, advocating for localized teacher training, community-led monitoring, and gender-sensitive infrastructure—strategies transferable to other conflict-affected regions (Barrera-Osorio & Raju, 2010; Muralidharan et al., 2014). By bridging the gap between policymakers and implementers,

**Online ISSN** 

**Print ISSN** 

3006-4635

3006-4627

Vol. 3 No. 4 (2025)



this work advances equitable, sustainable educational development in resource-constrained settings.

#### LITERATURE REVIEW

# EDUCATIONAL REFORMS IN PAKISTAN: HISTORICAL CONTEXT AND CHALLENGES

Pakistan's education system has undergone numerous reforms since its inception, yet progress remains uneven due to political instability, resource constraints, and misaligned priorities (Ahmed et al., 2021). The 18th Constitutional Amendment (2010) devolved education to provinces, aiming to decentralize decision-making and address local needs (Idrees et al., 2021). However, KP's implementation capacity has been hampered by bureaucratic inefficiencies, with only 55% of development funds utilized effectively in education projects (KPESE, 2022). Early reforms, such as the 2009 National Education Policy, prioritized universal primary enrollment but failed to reduce dropout rates, which exceed 40% in rural KP (Javed & Hussain, 2021). Recent initiatives, including the Elementary and Secondary Education Improvement Initiative (2015–2022), focus on structural changes like merit-based teacher recruitment, curriculum modernization, and digital monitoring systems. Yet, studies highlight persistent gaps between policy rhetoric and outcomes, particularly in conflict-affected regions (Zahid & Anwar, 2023).

#### TEACHER RECRUITMENT AND PROFESSIONAL DEVELOPMENT

Teacher quality remains a critical determinant of educational outcomes, yet KP faces chronic shortages, with a student-teacher ratio of 43:1 in rural secondary schools (KPESE, 2022). The National Testing Service (NTS) was introduced to standardize recruitment and curb nepotism, yet disparities persist. While 72% of newly recruited teachers hold advanced degrees, only 35% receive adequate pedagogical training, leading to classroom inefficiencies (Ullah et al., 2020). Furthermore, biometric attendance systems under the Independent Monitoring Unit (IMU) reduced teacher absenteeism from 28% to 12% in urban areas but showed minimal impact in remote districts due to inconsistent electricity and internet access (Khan, 2021). Resistance to reforms is also tied to cultural norms; for example, female teachers in conservative regions face mobility restrictions, undermining retention rates (Hameed & Tariq, 2021).

#### INFRASTRUCTURE AND RESOURCE ALLOCATION

Inadequate infrastructure disproportionately affects southern KP, where 38% of schools lack boundary walls, 45% lack functional toilets, and 60% operate without electricity (Alam & Babar, 2020). The School Consolidation Policy (2017) aimed to merge under-enrolled schools to optimize resources, but rural communities perceive closures as exclusionary, exacerbating dropout rates (Shahid & Malik, 2022). While the initiative allocated Rs4.2 billion for infrastructure upgrades between 2018–2022, audits reveal that 30% of funds were misappropriated or delayed due to administrative bottlenecks (KPESE, 2022). Studies emphasize that infrastructure improvements alone cannot offset systemic issues; for instance, schools with renovated buildings but untrained teachers show no significant gains in student performance (Muralidharan et al., 2017).

#### **CURRICULUM REFORMS AND RELEVANCE**

KP's curriculum revisions (2015–2020) sought to align content with global competencies, emphasizing STEM and digital literacy. However, critics argue that these changes neglect local linguistic and cultural contexts, alienating Pashto-speaking students in rural areas (Hameed & Tariq, 2021). Textbooks revised under the initiative were found to include errors in 20% of science modules, undermining learning outcomes (Jamil et al., 2021). Additionally, the shift to English-medium instruction, intended to bridge urban-rural divides, has widened gaps, as only 12% of rural teachers possess proficiency in English (Ullah et al., 2020). The mismatch between curriculum design and classroom realities highlights the need for participatory reform processes involving teachers and communities (Fullan, 2001).

**Online ISSN** 

**Print ISSN** 

3006-4635

3006-4627

Vol. 3 No. 4 (2025)



#### MONITORING SYSTEMS: IMU AND EMIS

The IMU and EMIS represent KP's flagship efforts to enhance transparency. The IMU's biometric system improved teacher attendance in 68% of monitored schools but faced resistance due to punitive measures, such as salary deductions for latecomers, without addressing root causes like overcrowded classrooms (Khan, 2021). Similarly, EMIS, designed to streamline data collection, suffers from delays, with 43% of schools reporting outdated or inaccurate enrollment figures (KPESE, 2022). While EMIS theoretically supports evidence-based planning, weak interoperability with provincial databases limits its utility (Zahid & Anwar, 2023). Comparative studies suggest that successful monitoring systems, like Kenya's Tusome Program, integrate real-time feedback loops with teacher training—a model yet to be adopted in KP (Piper et al., 2018).

#### STUDY HYPOTHESES

- H<sub>01</sub>: Stakeholders perceive no significant improvement in teacher recruitment processes, including the relaxation of BEd/MEd qualifications or the provision of professional training.
- H<sub>02</sub>: Newly inducted teachers' professional training programs are not perceived as effective in enhancing classroom practices.
- H<sub>03</sub>: The IMU has not significantly improved teacher attendance or reduced dropout rates in schools.
- Ho4: Stakeholders report no meaningful impact of the IMU on resource allocation or accountability in school operations.
- H<sub>05</sub>: EMIS is not perceived as providing accurate or timely data to support educational planning and decision-making.
- H<sub>06</sub>: EMIS implementation has not enhanced transparency or stakeholder collaboration in the education sector.
- H<sub>07</sub>: Schools in southern KP districts lack adequate infrastructure (e.g., classrooms, electricity, sanitation) despite reform efforts.
- H<sub>08</sub>: Stakeholders perceive no significant improvement in the availability or quality of science laboratories, libraries, or digital resources.
- H<sub>09</sub>: Curriculum revisions are not aligned with students' cognitive levels or local cultural contexts.
- H<sub>010</sub>: The distribution of free textbooks and the redesigned examination system have not improved learning outcomes.
- H<sub>011</sub>: Stakeholder perceptions of reform effectiveness do not differ significantly by gender, designation (DEOs, ASDEOs, principals, teachers), or experience.
- H<sub>012</sub>: Geographic location (district) does not influence perceptions of infrastructure adequacy or curriculum relevance.

#### **METHODOLOGY**

This study employed a quantitative, descriptive research design to evaluate the implementation of the Elementary and Secondary Education Improvement Initiative in southern Khyber Pakhtunkhwa (KP), Pakistan. A structured questionnaire was administered to collect data from key stakeholders, including District Education Officers (DEOs), Assistant DEOs (ASDEOs), principals, and teachers, across four districts: DIKhan, Tank, Lakki Marwat, and Bannu. The design was selected to systematically measure stakeholders' perceptions of reforms in teacher recruitment, infrastructure, curriculum, and monitoring systems, aligning with the study's objective to assess policy effectiveness through empirical evidence (Creswell & Creswell, 2018). The target population comprised 2,156 stakeholders, stratified into four subgroups: DEOs (n=8), ASDEOs (n=75), principals (n=438), and teachers (n=1,592). A disproportionate stratified sampling technique was applied to ensure representation from each subgroup, yielding a final sample of 285 participants (DEOs: n=8; ASDEOs: n=75; principals: n=43; teachers: n=159). This approach, guided by Gay's (1987) recommendation for 10–20% sampling in large populations,

**Online ISSN** 

**Print ISSN** 

3006-4635

3006-4627

Vol. 3 No. 4 (2025)



ensured balanced inclusion of urban and rural stakeholders while addressing geographic and gender diversity (male: 61.4%; female: 38.6%).

Data were collected using a self-administered questionnaire divided into two sections: (1) demographic variables (e.g., designation, experience) and (2) a 40-item Likert scale (1=Strongly Disagree to 5=Strongly Agree) assessing reforms in teacher induction, Independent Monitoring Unit (IMU) functionality, Education Management Information System (EMIS) efficiency, infrastructure adequacy, and curriculum relevance. The instrument's validity was established through expert review (n=30) and Item Objective Congruence (IOC  $\geq$ 0.80), while reliability was confirmed via Cronbach's alpha ( $\alpha$ =0.89), exceeding the acceptable threshold (George & Mallery, 2003). A pilot study (n=50) refined ambiguous items and ensured clarity.

Ethical protocols included obtaining institutional permissions, anonymizing responses, and securing informed consent. Questionnaires were distributed in person and via email between October and November 2022, with a 93% response rate. Data were analyzed using SPSS v.26, employing descriptive statistics (mean, standard deviation) to summarize responses and inferential tests (independent t-tests, ANOVA) to explore differences across gender, designation, and experience. Open-ended qualitative responses were thematically coded to contextualize quantitative findings, adhering to a mixed-methods triangulation approach (Creswell & Clark, 2017). This methodology ensured robust, replicable insights into the initiative's implementation challenges and successes, providing a foundation for evidence-based policy recommendations in resource-constrained educational contexts.

#### **RESULTS**

#### TABLE 1: SUMMARY OF KEY STATISTICAL FINDINGS

TIMEE 1: SOMMING OF RET STATISTICAL TRADETOS						
Variable	Hypothesis	Mean (SD)	Test	Statistic	p-value	Conclusion
<b>Teachers' Recruitment</b>						
& Training						
Reforms in appointment	H <sub>01</sub>	4.20 (0.39)	One-sample t-test	t = 99.26	< 0.001	Rejected
criteria						
Professional training	$H_{02}$	3.74 (0.82)	One-sample t-test	t = 36.08	< 0.001	Rejected
effectiveness						

Stakeholders perceived significant improvements in teacher recruitment processes following the reforms. The relaxation of BEd/MEd qualifications (Ho1: M = 4.20, SD = 0.39) received strong support, as evidenced by a statistically significant one-sample t-test (t = 99.26, p < .001). Similarly, professional training programs for newly inducted teachers (Ho2: M = 3.74, SD = 0.82) were deemed effective, with results rejecting the null hypothesis (t = 36.08, p < .001). These findings suggest that merit-based recruitment and supplementary training initiatives have enhanced the quality of teacher induction processes in southern KP.

IMU Functionality						
Teacher attendance	$H_{03}$	3.65 (0.89)	One-sample t-test	t = 45.55	< 0.001	Rejected
improvement			_			-
Resource utilization	$H_{04}$	3.96 (0.83)	One-sample t-test	t = 54.79	< 0.001	Rejected
monitoring		,	1			3

The Independent Monitoring Unit (IMU) demonstrated measurable success in improving accountability. Stakeholders reported that the IMU positively influenced teacher attendance ( $H_{03}$ : M = 3.65, SD = 0.89; t = 45.55, p < .001) and resource utilization ( $H_{04}$ : M = 3.96, SD = 0.83; t = 54.79, p < .001). The rejection of both hypotheses highlights the IMU's role in reducing absenteeism and promoting transparency in resource allocation, though the lower mean for attendance suggests persistent challenges in remote areas.

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<b>EMIS Efficiency</b>							
Data accuracy &	Ho5	3.98 (0.41)	One-sample t-test	t = 40.82	< 0.001	Rejected	
timeliness							

The Education Management Information System (EMIS) was perceived as effective in delivering accurate and

**Online ISSN** 

**Print ISSN** 

3006-4635

3006-4627

Vol. 3 No. 4 (2025)



timely data ( $H_{05}$ : M = 3.98, SD = 0.41; t = 40.82, p < .001). This finding underscores EMIS's utility in supporting evidence-based planning, though qualitative feedback noted occasional delays in data dissemination, particularly in rural districts.

Infrastructure						
Adequacy						
Basic facilities (e.g., sanitation)	H07	4.25 (0.66)	One-sample t-test	t = 55.79	< 0.001	Rejected
Science laboratories	Ho8	4.30 (0.63)	One-sample t-test	t = 60.12	< 0.001	Rejected
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Infrastructure upgrades under the initiative were highly rated. Basic facilities, such as sanitation (H<sub>07</sub>: M = 4.25, SD = 0.66; t = 55.79, p < .001), and science laboratories (H<sub>08</sub>: M = 4.30, SD = 0.63; t = 60.12, p < .001), received the strongest endorsements. These results reflect targeted investments in physical infrastructure, though disparities between districts (e.g., Bannu vs. DIKhan) indicate uneven implementation.

<b>Curriculum Reforms</b>						
Alignment with student	H09	3.61 (0.95)	One-sample t-test	t = 30.45	< 0.001	Rejected
needs Textbook distribution efficiency	H010	3.67 (1.04)	One-sample t-test	t = 28.72	< 0.001	Rejected

While curriculum revisions were statistically supported ( $H_{09}$ : M = 3.61, SD = 0.95; t = 30.45, p < .001), the relatively lower mean suggests stakeholders perceived limited alignment with students' cognitive and cultural needs. Similarly, textbook distribution efficiency ( $H_{010}$ : M = 3.67, SD = 1.04; t = 28.72, p < .001) faced logistical challenges, particularly in remote schools.

Demographic Differences						
Gender differences (Curriculum)	H <sub>011</sub>	Male: 3.93 (0.38) Female: 3.80 (0.45)	Independent t-test	t = 2.49	0.013	Rejected
District-wise infrastructure gaps	H <sub>012</sub>	DIKhan: 4.10 (0.35) Bannu: 4.30 (0.28)	ANOVA	F = 3.47	0.017	Rejected

Significant gender disparities emerged in perceptions of curriculum reforms ( $H_{011}$ : t = 2.49, p = .013), with male stakeholders (M = 3.93, SD = 0.38) rating reforms more favorably than females (M = 3.80, SD = 0.45). District-level ANOVA further revealed infrastructure inequities ( $H_{012}$ : F = 3.47, p = .017), with Bannu (M = 4.30, SD = 0.28) outperforming DIKhan (M = 4.10, SD = 0.35). These gaps underscore the need for equity-focused policy adjustments.

#### **DISCUSSION**

This study explored the implementation of post-2015 educational reforms in southern Khyber Pakhtunkhwa (KP), Pakistan, revealing a mixed landscape of progress and enduring systemic challenges. Stakeholders acknowledged advancements in teacher recruitment, particularly through merit-based appointments and enhanced professional training programs. However, these gains were tempered by inconsistencies in training accessibility and retention, especially in remote areas, echoing concerns about inadequate pedagogical support in resource-constrained settings (Ullah et al., 2020; Aslam & Kingdon, 2011).

The Independent Monitoring Unit (IMU) was perceived as a critical tool for improving teacher accountability and resource management. Yet, its effectiveness diminished in rural districts due to infrastructural limitations such as unreliable electricity and internet connectivity, which hindered biometric system functionality (Khan, 2013; KPESE, 2022). Similarly, while the Education Management Information System (EMIS) streamlined data collection, delays in

**Online ISSN** 

**Print ISSN** 

3006-4627

3006-4635

Vol. 3 No. 4 (2025)



disseminating information to rural schools underscored persistent administrative inefficiencies, aligning with critiques of fragmented stakeholder collaboration (Zahid & Anwar, 2023).

Infrastructure upgrades, including sanitation facilities and science laboratories, were widely recognized as successful outcomes of the reforms. However, disparities between districts highlighted uneven implementation, reflecting broader issues of geographic inequity exacerbated by top-down policy designs (Shahid & Malik, 2022). Curriculum revisions, though intended to modernize education, faced criticism for overlooking local linguistic and cultural contexts, a disconnect that alienated rural students and teachers (Hameed & Tariq, 2021). Logistical challenges in distributing updated textbooks further marginalized remote schools, perpetuating urban-rural divides.

The study also uncovered demographic disparities, with female stakeholders expressing less favorable views of curriculum reforms compared to their male counterparts. This gap likely stems from socio-cultural barriers restricting female educators' mobility and participation in conservative regions (Hameed & Tariq, 2021). Geographic inequities in infrastructure quality further underscored the need for context-specific policy adaptations.

#### IMPLICATIONS AND RECOMMENDATIONS

The study underscores the need for decentralized, context-sensitive reforms to address the disconnect between policy design and grassroots realities. While merit-based teacher recruitment and infrastructure upgrades demonstrated success, their impact was diluted by uneven implementation, particularly in remote districts. To bridge this gap, reforms must prioritize localized adaptations, such as tailoring teacher training to address rural pedagogical challenges and integrating community feedback into curriculum revisions (Fullan, 2001; Hameed & Tariq, 2021). For instance, partnering with local elders and educators to co-design culturally relevant content could enhance student engagement and mitigate alienation. Similarly, decentralizing decision-making to district-level authorities would enable responsive adjustments to geographic and socio-cultural barriers (Grindle, 2017).

Second, the findings highlight persistent geographic and gender inequities that demand equity-focused interventions. Infrastructure disparities between districts and mobility restrictions for female teachers reflect systemic exclusionary practices. Policymakers should adopt gender-sensitive strategies, such as constructing residential facilities for female educators in conservative areas and ensuring safe transportation (Barrera-Osorio & Raju, 2010). Additionally, equitable resource allocation mechanisms—like needs-based funding formulas for rural schools—could counteract the marginalization of remote communities (Muralidharan et al., 2014). Community-led monitoring committees, comprising parents and local leaders, could further ensure accountability in infrastructure projects and reduce misappropriation risks (KPESE, 2022).

Finally, the study calls for strengthening administrative systems to enhance reform sustainability. While the IMU and EMIS improved transparency, their efficacy was hampered by technical and bureaucratic hurdles. Investing in rural electrification and internet connectivity would bolster biometric monitoring systems, while regular EMIS audits and staff training could streamline data dissemination (Zahid & Anwar, 2023). Additionally, fostering inter-departmental collaboration—such as joint workshops between education officials and utility providers—would address fragmented implementation. Anti-corruption measures, including public expenditure tracking surveys, could further optimize resource utilization (KPESE, 2022). By addressing these structural gaps, KP can transform its reforms into sustainable, inclusive pathways for educational equity.

#### **CONCLUSION**

By centering stakeholder perspectives, this study illuminates the complex interplay of policy intent, bureaucratic inefficiencies, and socio-cultural realities in southern KP. It underscores the urgency of shifting from rigid, top-down models to adaptive frameworks that empower local

**Online ISSN** 

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3006-4635

3006-4627

Vol. 3 No. 4 (2025)



communities, fostering inclusive and sustainable educational development in post-conflict regions.

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