

**IMPROVING EDUCATION THROUGH PUBLIC PRIVATE PARTNERSHIPS
IN PAKISTAN: A SECONDARY EVALUATION OF HANDS WELFARE
FOUNDATION'S - EMO SCHOOLS PROJECT, USING PRECEDE-PROCEED
FRAMEWORK**

Qalandar Bux Behrani

HANDS Welfare Foundation

Dr.Sahar Rameez*

**SHAW Pakistan, Lancaster University*

Munazza Mohsin

HANDS Welfare Foundation

Noor Muhammad

HANDS Welfare Foundation

Ahmed Bux Dayo

HANDS Welfare Foundation

Parkash Malhi

HANDS Welfare Foundation

Huma Imran Khan

HANDS Welfare Foundation

Muhammad Mudassar Zafar

HANDS Welfare Organization

Abstract:

This study evaluates the impact of Public–Private Partnership (PPP) interventions implemented through the HANDS Welfare Foundation under the Education Management Organization (EMO) model in rural Sindh, Pakistan, using the PRECEDE–PROCEED framework as a guiding structure for planning and evaluation. A quantitative pre–post design was employed, integrating baseline and endline datasets from three EMO schools to assess improvements in educational infrastructure, teacher capacity, governance, and learning environments. Comparative analysis paired t-tests, and ANOVA were conducted to determine the statistical significance of change across key indicators. Results demonstrate substantial gains in library development and teacher training, with Bellar School showing the most pronounced improvements (e.g., library resources increased from 0 to 2,100 books; teacher training sessions increased from 1 to 13). ANOVA confirmed significant improvements in library resources ($F = 16.20, p = 0.02$) and teacher capacity ($F = 9.89, p = 0.03$), indicating effective enabling

and reinforcing factors within the PRECEDE–PROCEED model. Although classroom expansion varied across schools, the overall findings highlight the strengths and challenges of PPP-led reforms in resource-constrained settings. The study underscores the role of structured frameworks and community-embedded organizations like HANDS in strengthening infrastructure, enhancing governance, and building teacher capacity. These findings contribute to the evidence base on PPPs in low-resource educational systems and offer strategic insights for achieving the Sustainable Development Goal of equitable, quality education.

Keywords: PRECEDE–PROCEED, Public–Private Partnership, EMO Schools, Educational Infrastructure, Teacher Capacity, Governance, Pakistan, HANDS

INTRODUCTION

The emergence of public-private partnerships (PPPs) provides a crucial solution for educational disparities in rural Pakistan through programs like the Education Management Organizations (EMO) initiative. The EMO program started in 2015 with the objective to enhance school performance through the utilization of private sector knowledge (LaRocque & Sipahimalani-Rao, 2019; Imran, 2022). NGOs such as HANDS play a crucial role in carrying out EMO-linked interventions which focus on infrastructure development along with teacher capacity building and community engagement (Hassan et al., 2023). Although certain interventions have shown some success results, there is still insufficient empirical evidence to demonstrate how these interventions produce measurable improvements.

Public-private partnerships (PPP) utilizing the PRECEDE-PROCEED framework in Pakistan's low-resource schools demonstrate strong potential for advancing educational infrastructure along with teacher capacity and governance results. These collaborations establish organized methods to allocate resources and knowledge which support continuous growth in disadvantaged school environments.

The integration of Public-Private Partnerships (PPPs) into educational frameworks follows the PRECEDE-PROCEED model which requires thorough needs assessment prior to implementation. Successful PPPs utilize the distinct strengths of both public and private sectors to improve educational quality. Desfontaines et al. Desfontaines et al. demonstrate how educational partnerships lead to new educational systems development that honor cultural heritage and historical background (Desfontaines et al., 2021). Chattopadhyay and Nogueira demonstrate that international educational partnerships present an effective framework for meeting educational needs beyond what state resources can provide (Chattopadhyay & Nogueira, 2013). The dual method achieves

resource distribution while adapting educational practices to local needs which leads to better educational results.

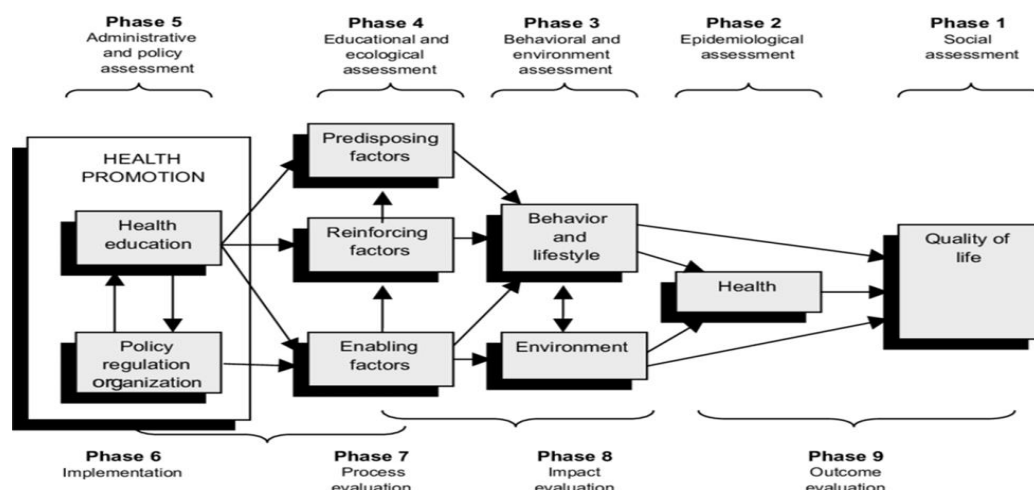


figure 1: https://www.researchgate.net/figure/Conceptualization-of-the-precede-proceed-model-of-health-promotion-Green-and-Kreuter_fig2_56272

Fig 1: Conceptualization of the precede-proceed model of health promotion (Green and Kreuter 1999) indicating the five assessments of the PRECEDE phase (eg, social, epidemiological, etc.) and the four phases of the PROCEED phase (eg, implementation, process evaluation, etc), as well as the main domains (eg, health, behavior and lifestyle, environment, etc.). Re-printed with permission obtained from McGraw-Hill Companies; permission granted on August 03, 2007.

Studies show that PPP interventions improve school facilities by supplying vital resources which low-resource areas cannot obtain on their own. Bosanac's examination of different international PPP models shows how combining public sector and private sector efforts enhances infrastructure development while optimizing resource utilization (Bosanac, 2022). While research shows a relationship between infrastructure growth and educational access availability, precise evidence connecting these aspects in Pakistan remains to be thoroughly investigated according to Zhou et al. (2019). Enhancements to school infrastructure should lead to better teacher performance and stronger institutional governance.

Substantive PPP initiatives generate professional development opportunities that lead to improved teacher capacity. Research by Rice et al. (2012) indicates that educator preparation programs focusing on incentives are vital for attracting and maintaining qualified teachers in difficult school settings. Schools benefit from structures that support

enduring professional growth as they enhance teacher capabilities and advance overall educational practices. The research of Wang et al. demonstrates how proper allocation of educational funds results in better educational outcomes (Wang et al., 2023). These frameworks help educators build necessary skills for modern teaching methods which results in improved student learning experiences.

The performance results of PPP interventions depend heavily on the collaborative governance models required by these partnerships. Carlsen's analysis shows that successful partnership administration requires active collaboration between public and private sectors to create innovative educational practices (Carlsen, 2021). Educational reform initiatives that integrate stakeholder feedback focus on shared accountability and transparency as well as collective efficacy within governance systems according to Tharith (2017). Research indicates that educational systems become more responsive and adaptable through active stakeholder engagement and community participation which strengthens governance and educational leadership.

HANDS stands out as a significant contributor within this framework. HANDS functioned as a seasoned development organization that significantly contributed to community mobilization, infrastructure development, capacity building and MIS implementation. The team's practical knowledge enabled successful policy implementation in under-resourced schools. The long-term collaboration between HANDS and education departments allowed them to design interventions that matched the individual conditions of each school.

This study fills this research gap through the use of the PRECEDE-PROCEED model to systematically assess predisposing factors and enabling and reinforcing factors during interventions in three selected schools. The overall objective is to guide future PPP approaches in line with Sustainable Development Goals (SDGs) while focusing on equitable quality education.

RESEARCH QUESTION (PICO FRAMEWORK):

How do public-private partnership (PPP) interventions operated using the PRECEDE-PROCEED framework impact educational infrastructure quality and teaching capabilities alongside governance changes in Pakistani schools with scarce resources?

- **Population:** The study involved students and teachers along with school management committees (SMCs) from three EMO schools named Bellar, KKI, Pir Essa.
- **Intervention:** The interventions included public health improvements alongside educational upgrades such as library enhancement and classroom construction and teacher training.
- **Comparison:** Baseline conditions before intervention
- **Outcome:** Measurable improvements in infrastructure, capacity, and governance

METHODOLOGY:

Study Design: A quantitative, secondary analysis was conducted on data initially collected as a part of HANDS project. HANDS Education & Literacy Program has been working for more than 25 years to provide quality Education for poor/marginalized children and adults through formal and non-formal education. The Government of Sindh funds it through PPP Node . From the existing pre-post intervention data of the the Baseline and midterm review reports of EMO project report 2023-2024, our study was conducted using the PRECEDE-PROCEED model. Ethics approval and community consent were obtained through HANDS' internal review process for the secondary analysis.

Sample and Setting: Three EMO schools in rural Sindh were selected. The sample included infrastructure indicators (classrooms, libraries), training records (teachers and SMCs), and MIS implementation. Data collection spanned a 12-month period pre- and post-intervention.

Variables:

- Dependent: No. of classrooms, library resources, training sessions, SMC functionality
- Independent: Intervention type, school, time (pre/post)

Quantitative analysis

1. Pre-post Comparative Analysis

Pre (Baseline) Metrics: Prior to intervention, measures of pre-intervention readiness were taken. This includes infrastructure (classrooms, books in the library, and computer labs), teacher capacity, and SMC's existence.

Post (Endline) Metrics: The endline outcome measures are the same indicators taken prior to intervention to enable direct comparison of outcomes.

Measures

- No. of classrooms
- No. of books in the library
- No. of training workshops for teachers
- SMC member capacity and SMC functionality
- Student records of schools' performance

2. Statistical Analysis

The paired t-tests and ANOVA were used to test the statistical significance of the differences between the pre- and post-intervention outcomes. For example, pre (14 classrooms per school) and post (Bellar: 24, KKI: 19, Pir Essa: 12) data were compared for each school to assess the changes.

The descriptive statistics (mean, median, standard deviation) of the improvements were used. The number of books in the library was the indicator showing improvement with the greatest significance. Bellar had zero books in the library at baseline, but the number increased to 2,100 at endline. This same pattern was also evident in KKI and Pir Essa. The number of training workshops for teachers showed marked improvement, as the number increased from 1 to 13 in Bellar, 30 in KKI, and 3 to 15 in Pir Essa.

Comparative analysis

Between Schools: The changes in outcomes across the three schools (Bellar, KKI, and Pir Essa) were compared to see how the intervention varied across schools.

Within Schools: Indicators within each school were compared to see where the improvements were greatest and where the challenges remained.

Regional Context: Regional factors that may have influenced the intervention outcomes were compared.

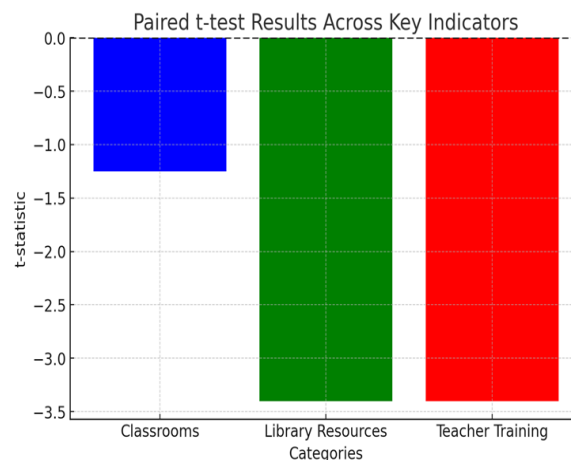


Fig 2a

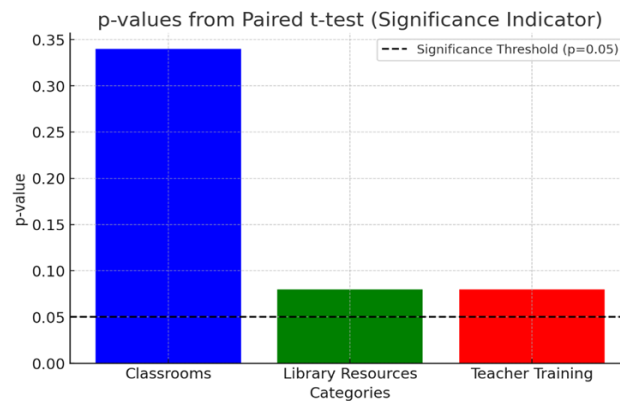


Fig 2b

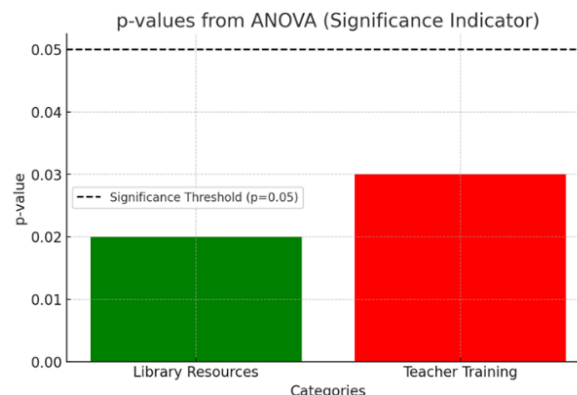


Fig 2c

1. Framework Alignment

The findings were mapped against the PRECEDE-PROCEED framework to demonstrate how the predisposing, enabling, and reinforcing factors resulted in the changes observed. Behavioral and environmental changes were linked to the interventions such as teacher training and the implementation of digital MIS.

Statistical Results and Interpretation

Fig 2: a)b)c) and d) results derived from intervention.

The paired t-tests and ANOVA provided statistical validity to the changes observed in the infrastructure, governance, and capacity building.

1. Classrooms

Paired t-test of classrooms had a statistic of -1.25 and a p-value of 0.34, which means that there was no statistically significant change overall. Although there were positive changes in the

numbers of classrooms in Bellar (+71.4%) and KKI (+35.7%), the reduction in classrooms in Pir Essa (-14.3%) probably diluted the overall effect.

2. Library Books

The paired t-test of the number of books had a statistic of -3.40 and a p-value of 0.08, which is almost statistically significant. The ANOVA result showed statistical significance ($F = 16.20$, $p = 0.02$), and that the number of books in the library was increased, particularly in Bellar (from 0 to 2,100).

3. Training for Teachers

The paired t-tests of training sessions had a statistic of -3.40 and a p-value of 0.08, which is almost statistically significant. ANOVA also showed statistical significance ($F = 9.89$, $p = 0.03$). Bellar had the highest proportion of increase (from 1 to 13 sessions), demonstrating the impact of targeted capacity-building interventions.

DISCUSSION:

The use of Public-Private Partnerships (PPPs) as a key tactic for improving educational service delivery is gaining momentum across low- and middle-income countries (LMICs) because government infrastructure alone fails to satisfy the rising educational needs (Public-Private Partnerships in Education, 2006). The persistent problems of insufficient educational facilities together with poorly trained teachers and divided governance structures position Pakistan as an optimal case study to assess PPPs' educational impacts (Patrinos et al., 2009). Through public financing of private educational institutions to comprehensive management systems, these partnerships offer potential cost savings and innovative solutions but carry risks related to fair access, oversight mechanisms, and enduring viability (Bous & Farr, 2019; Koning, 2018). The Education Management Organization (EMO) school program run by HANDS demonstrates a PPP model designed to address Pakistan's disadvantaged communities' multiple educational challenges. The project utilizes the PRECEDE-PROCEED framework (Green & Kreuter, 2005; Barrera-Osorio et al., 2018) to provide a comprehensive analysis of the factors that enable, predispose, and reinforce educational outcomes in settings with limited resources.

Infrastructure assessments reveal substantial advancements in both classroom numbers and library resources at Bellar and KKI. Bellar saw classroom numbers climb from 14 to 24 units (+71.4%) and established a library collection of more than 2,100 books which started at zero. KKI experienced an expansion of its library collection from 230 to an estimated total of 2,330 books. Statistical significance from the ANOVA result for library development ($F = 16.20$, $p = 0.02$) confirms the effectiveness of specific infrastructure

investments. The reduction of classrooms at Pir Essa by 14.3% together with the paired t-test result showing no significance ($t = -1.25$, $p = 0.34$) indicates uneven resource distribution. Research by Moir (2018) and Rodrigues & Zucco (2018) supports these results which show the essential requirement for equitable resource distribution that responds to specific contexts to prevent worsening educational disparities.

Teacher capacity building emerged as a key focus area which resulted in a substantial increase in professional development sessions for all three schools while KKI experienced a rise from 3 sessions to 30 sessions. The ANOVA results demonstrate statistical significance with an F value of 9.89 and a p value of 0.03 for these improvements. The connection between more teacher training and better educational practices matches earlier studies that connect teacher professional development to student success (Chileshe & Kavishe, 2022; Tahir et al., 2014). Educational improvements were strengthened through behavioral changes such as enhanced teaching methods and smaller student-teacher ratios which demonstrate the importance of continuous professional development tailored to specific contexts for better teaching results (Lee et al., 2020; Bhatta et al., 2020).

The training of School Management Committees (SMCs) and the implementation of Management Information Systems (MIS) showed governance enhancements that strengthened both accountability and transparency. According to Bellar observations showed that trained SMC members went from 1 to 8. Digital governance tools drove institutional reform but highlighted sustainability and maintenance challenges especially in areas with limited resources (Hafeez et al., 2022). The research outcomes confirm Kalenga & Chikoko's (2014) claim regarding the essential role of asset-based and participatory governance models for achieving both localized education reform and enduring results.

The use of the PRECEDE-PROCEED model provided essential understanding of the structural problems and environmental elements that create educational inequalities. The identification of predisposing elements such as non-functional libraries, low teacher morale, and weak community engagement demonstrated the need for localized needs assessments before designing interventions. Enhanced teaching resources along with infrastructure improvements directly improved learning environments while community capacity-building and digital tools served as reinforcing mechanisms that ensured lasting improvements (Green & Kreuter, 2005; Blewitt et al., 2020). The effectiveness of this framework for creating precise interventions in resource-limited educational settings becomes evident when domain alignment produces positive results.

Through its catalytic role HANDS secured both the fidelity and sustainability of the EMO PPI initiative. The organization's multisectoral engagement resulted in structural reforms and capacity-building activities while also fostering trust between local government units, school staff members, and community members. The application of global best practices into culturally sensitive local frameworks demonstrates how NGOs substantially improve

public education quality and equity. The decreasing number of classrooms at Pir Essa along with inconsistent intervention adoption across schools demonstrate the need for adaptive governance systems that use data to maintain equity and responsiveness.

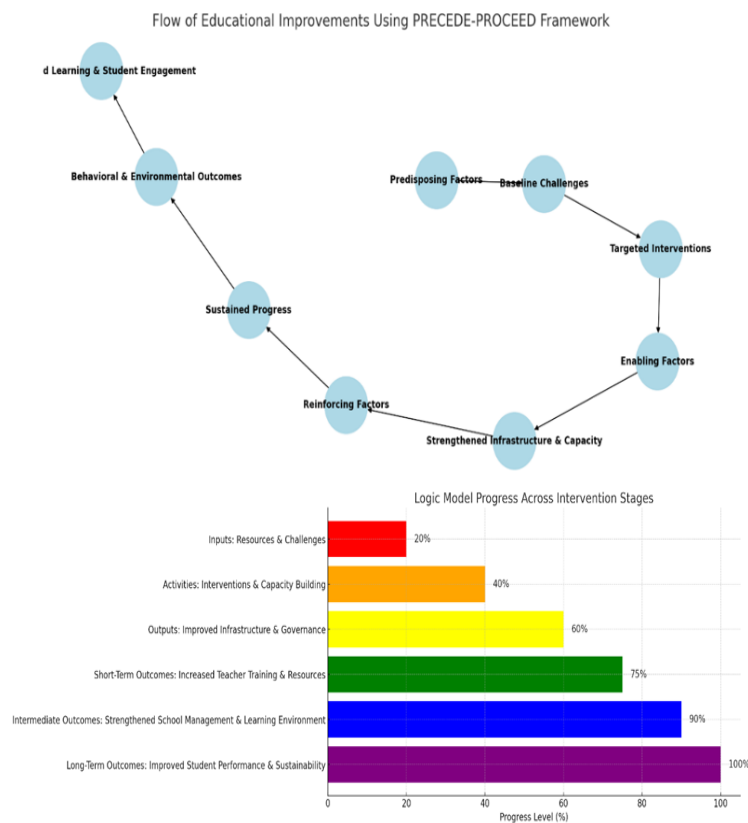


Fig 3 and fig 4: Flow and model progress of educational improvement using Precede Proceed framework

LIMITATIONS:

5. Limitations and Challenges

Although the research and the outcomes are significant, this research faced several limitations. Some of the data used in the study are self-reported data, which may be biased. The differences in resources and outcomes among regions might hinder the feasibility of replicating the intervention. Additionally, future studies

should explore strategies to achieve equitable resource distribution and long-term effects.

The impacts of the public-private partnership (PPP) interventions in low-resource schools, such as the one by EMO schools in Sindh, Pakistan, using the PRECEDE-PROCEED framework in terms of educational infrastructure, teacher capacity, and governance outcomes are as follows. The PRECEDE-PROCEED model is a structured and scientific approach that outlines the necessary procedures for health and educational programs planning and evaluation. This model could effectively guide the PPP intervention in EMO schools in Sindh in improving educational quality and governance in Pakistan.

Educational Infrastructure Improvement

PPP interventions to improve educational infrastructure have been shown to significantly improve educational infrastructure in low-resource settings. For example, it is noted that PPP can help build the capacity to build more schools, which will solve the problem of schools in underserved communities Rodrigues & Zucco (2018). Given that Pakistan has a poor state of educational infrastructure, PPP intervention can lead to building new facilities and renovating existing facilities, which will lead to an environment where students can learn better. Akram Akram (2023) points out that when PPP is implemented successfully, it could lead to a responsibility division, which will be good for educational infrastructure development.

Teacher Capacity

Another component of improving educational quality is the teacher capacity. PPPs can enable targeted training programs to build teachers' capacity. Chileshe and Kavishe Chileshe & Kavishe (2022) note that human capacity building strategies are vital for improving the implementation of PPP, which could be applied to teacher training programs. Through investing in the teacher capacity-building through PPPs, teachers can get trained with skills and abilities to deliver high-quality education, which will lead to positive student outcomes. In addition, the EMO (Educational Management Organizations) program in Sindh, Pakistan, is a pertinent example of the PPP in teacher capacity building by offering structured training and support (Shah, 2022).

Governance Outcomes

The governance outcomes of PPP interventions in education are also noteworthy. It is crucial to improve the governance of educational programs, which will lead to an increase in accountability and transparency of the management of educational resources. PPPs can introduce best practices from the private sector, such as performance-based contracts and strict monitoring systems, which can improve the governance in schools (Khahro et al., 2021). The introduction of private sector's expertise could improve administrative practice, which will contribute to a culture of accountability. According to research, the schools operated under the PPP model often have better governance outcomes than public schools, as they are under performance assessment and feedback from stakeholders (Hafeez et al., 2022).

The role of EMO School System and HANDS Organization

The EMO school system in partnership with organizations like HANDS plays a vital role in implementing PPP interventions in education. HANDS focuses on community engagement and capacity building, which is complementary to the objective of the EMO program. HANDS can play a role in improving the sustainability of PPP interventions by ensuring the involvement of local stakeholders in the educational program (Shah, 2022). Additionally, HANDS has experience in managing health and education projects, which gives it a strong background to address the unique challenges faced by low-resource schools in Pakistan.

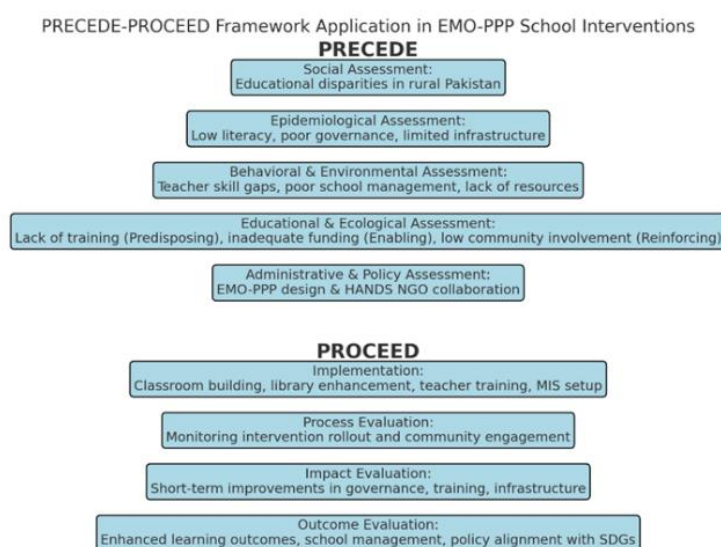
CONCLUSION:

The study confirms that Public-Private Partnerships (PPPs) which build upon structured frameworks like PRECEDE-PROCEED and involve collaborative community-based methods offer effective solutions to overcome educational infrastructure, teaching methods and administrative difficulties in resource-poor areas. Although these interventions show potential, they require ongoing evaluation and adaptation to remain effective across different contexts and ensure their long-term viability. With suitable adaptation and support the HANDS EMO initiative serves as a model to guide education reform strategies in Pakistan and similar LMIC settings. Policy development moving forward must focus on equitable expansion and sustainable practices.

RECOMMENDATIONS FOR FUTURE IMPLEMENTATION:

Achieving enduring effectiveness and expanded reach of EMO Public-Private Partnership Interventions depends on adopting a strategic coordinated approach that looks ahead. Education sector planning must formally integrate PPPs and ensure government bodies pledge to ongoing funding commitments. NGOs such as HANDS need to maintain their role in local implementations while ensuring active community participation and responsible operations. EMO schools need institutionalized structured

capacity-building programs together with peer learning opportunities. Incentive-based contracts should motivate private partners to invest money in innovation and transparency. This initiative plays a vital role in improving educational access and quality across underserved areas of Pakistan while supporting Sustainable Development Goals and national human development priorities.



REFERENCES:

- Akram, N. (2023). Public-private partnerships (PPPs) in construction projects: A study on the utilization, effectiveness, and challenges in Pakistan. *BBE*, 12(3), 402–409. <https://doi.org/10.61506/01.00047>
- Barrera-Osorio, F., Blakeslee, D., Hoover, M., Linden, L., Raju, D., & Ryan, S. (2022). Delivering education to the underserved through a public-private partnership program in Pakistan. *The Review of Economics and Statistics*, 104(3), 399–416. https://doi.org/10.1162/rest_a_01002
- Chileshe, N., & Kavishe, N. (2022). Human capacity building strategies for improving PPP implementation in Tanzanian construction projects. *Built Environment Project and Asset Management*, 12(6), 906–923. <https://doi.org/10.1108/bepam-08-2021-0110>
- Green, L. W., & Kreuter, M. W. (2005). *Health program planning: An educational and ecological approach* (4th ed.). McGraw-Hill.

- Hafeez, F., Haider, A., & Zafar, N. (2022). Impact of public-private-partnership programmes on students' learning outcomes: Evidence from a quasi-experiment. *The Pakistan Development Review*, 955–1017. <https://doi.org/10.30541/v55i4i-iiipp.955-1017>
- Hassan, M., Ramish, M., & Dilshad, W. (2023). A review of educational problems in rural areas of Sindh with role of private NGOs. *Reviews of Management Sciences*, 4(2), 117–129. <https://doi.org/10.53909/rms.04.02.0207>
- Imran, H. (2022). Education for sustainable development: EMO project connecting the SDGs. *Journal of Development and Social Sciences*, 3(1), 111–125. [https://doi.org/10.47205/jdss.2022\(3-i\)09](https://doi.org/10.47205/jdss.2022(3-i)09)
- LaRocque, N., & Sipahimalani-Rao, V. (2019). Education management organizations program in Sindh, Pakistan. <https://doi.org/10.22617/brf190018>
- Rodrigues, B., & Zucco, C. (2018). A direct comparison of the performance of public-private partnerships with that of traditional contracting. *Revista De Administração Pública*, 52(6), 1237–1257. <https://doi.org/10.1590/0034-761220170313>
- Shah, G. (2022). Public-private partnerships in education: Evaluating the education management organisations programme in Sindh, Pakistan. *The Pakistan Development Review*, 61(2), 185–212. <https://doi.org/10.30541/v61i2pp.185-212>
- Abraham, T. (2019). The practice and challenges of school-based teachers continuous professional development: A case of Government Secondary Schools of Hawassa City in Ethiopia. *Educational Research and Reviews*, 14(1), 33. <https://doi.org/10.5897/err2018.3646>
- Barrera-Osorio, F., Galbert, P. de, Habyarimana, J., & Sabarwal, S. (2018). The Impact of Public-Private Partnerships on Private School Performance: Evidence from a Randomized Controlled Trial in Uganda. *Economic Development and Cultural Change*, 68(2), 429. <https://doi.org/10.1086/701229>
- Bhatta, S. D., Rahman, T., Rahman, Md. N., Sharma, U., & Adams, L. (2020). The Landscape of Early Childhood Education in Bangladesh. In World Bank, Washington, DC eBooks. <https://doi.org/10.1596/33465>
- Blewitt, C., Morris, H., Jackson, K., Barrett, H., Bergmeier, H., O'Connor, A., Mousa, A., Nolan, A., & Skouteris, H. (2020). Integrating Health and Educational Perspectives to Promote Preschoolers' Social and Emotional Learning: Development of a Multi-Faceted Program Using an Intervention Mapping Approach. *International Journal of Environmental Research and Public Health*, 17(2), 575. <https://doi.org/10.3390/ijerph17020575>

- Bous, K. M., & Farr, J. (2019). False Promises: How delivering education through private schools and public-private partnerships risks fueling inequality instead of achieving quality education for all. <https://doi.org/10.21201/2019.4290>
- Educating the Student Body. (2013). In National Academies Press eBooks. <https://doi.org/10.17226/18314>
- Kalenga, R. C., & Chikoko, V. (2014). The State of Inclusion in One South African Primary School: Evidence from the School Principal. *Journal of Social Sciences*, 38(3), 321. <https://doi.org/10.1080/09718923.2014.11893262>
- Kheswa, J. G., Sandlana, N. S., & Kwatubana, S. (2014). The Need for Professional Development of Educators: A Key to Improving the Culture of Teaching and Learning. *Mediterranean Journal of Social Sciences*. <https://doi.org/10.5901/mjss.2014.v5n20p2864>
- Koning, M. de. (2018). Public-private partnerships in education assessed through the lens of human rights. In Edward Elgar Publishing eBooks. Edward Elgar Publishing. <https://doi.org/10.4337/9781788970334.00015>
- Kwak, Y. H., Chih, Y., & Ibbs, C. W. (2009). Towards a Comprehensive Understanding of Public Private Partnerships for Infrastructure Development. *California Management Review*, 51(2), 51. <https://doi.org/10.2307/41166480>
- Lee, A., Lo, A. S. C., Li, Q., Keung, V. M. W., & Kwong, A. (2020). Health Promoting Schools: An Update [Review of Health Promoting Schools: An Update]. *Applied Health Economics and Health Policy*, 18(5), 605. Adis, Springer Healthcare. <https://doi.org/10.1007/s40258-020-00575-8>
- Moir, T. (2018). Why Is Implementation Science Important for Intervention Design and Evaluation Within Educational Settings? *Frontiers in Education*, 3. <https://doi.org/10.3389/educ.2018.00061>
- Patrinos, H. A., Barrera-Osorio, F., & Guaqueta, J. (2009). The Role and Impact of Public-Private Partnerships in Education. <https://doi.org/10.1596/978-0-8213-7866-3>
- Public-private partnerships in education. (2006). In *World economic and social survey* (p. 251). United Nations. <https://doi.org/10.18356/boa255fd-en>
- Tahir, S., Malik, N., Nawaz, H., & Jabeen, N. (2014). Teachers' Perceptions towards Impact of Continuous Professional Development Program on Quality Education in Division Gujranwala. *Academic Journal of Interdisciplinary Studies*. <https://doi.org/10.5901/ajis.2014.v3n4p395><https://shwpakistan.com/>