

Do Public-Private Partnerships (PPPs) Catalyze Inclusive Growth in Bangladesh?

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Abstract

Public-Private Partnerships (PPPs) have the potential to bring macroeconomic benefits by accelerating a nation's GDP growth and serving as a key driver of inclusive growth. The Bangladesh Public-Private Partnership Act, 2015 underscores the importance of extensive infrastructure investment by incorporating private participation alongside the government across various sectors. The Act also aims to meet the basic needs of the people of Bangladesh, expedite socio-economic development and enhance living standards. Under the current regulatory framework for PPPs, out of the 78 projects in the pipeline, twelve are either fully operational, partially operational, or at the construction stage. For the projects that are fully or partially operational, it is crucial to understand whether they embody the key premises of being drivers of inclusive growth. Thus, this paper seeks to answer the following question: To what extent have these projects been successful in achieving inclusiveness? The term 'inclusive growth' promotes the idea that society can achieve a balance between economic freedom and wealth creation, as well as equal opportunities and well-being. This paper explores the perspective of inclusive growth in terms of equal opportunities and well-being from the standpoint of access to services. The study employs a mixed method research approach and case study as research strategies. Data and information have been collected from respondents on five operational and partially operational PPP projects in the road, port, health, water and information communication technology sectors. Findings reveal that all the projects act as inclusive growth driver but with varying degree. It is expected that the research findings will encourage policymakers and implementers to adopt and implement projects through private investment, which will act as a true catalyst for driving the inclusive growth of Bangladesh.

Keywords: Public-Private Partnership (PPP), inclusive growth, access to services, equal opportunities, case study, operationalization

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1. Introduction

Public-Private Partnerships (PPPs) have emerged as a major public policy tool for addressing infrastructure gaps and improving public service delivery. By leveraging private sector expertise, innovation and financing, PPPs also aim to enhance the efficiency, affordability and accessibility of public services, ultimately contributing to inclusive growth. In Bangladesh, the government enacted the Bangladesh Public-Private Partnership Act of 2015 and established a regulatory framework to facilitate private sector involvement in public service delivery. Based on this regulatory framework, a few projects have started operation after the completion or partial completion of infrastructure. Therefore, question remains about the outcomes of PPPs, particularly whether they serve as a catalyst for inclusive growth. This study endeavors to explore the performance of PPPs in the context of inclusive growth from the perspective of access to public service delivery. The paper is structured as follows: Section II reviews literature on inclusive growth, PPPs and access to public services and based on which a conceptual framework is developed that delineates the indicators and measures of access to public services delivered by PPPs. Section III describes case facts, the data and methods for conducting the study. Section IV presents the findings, discussion and policy recommendations and finally Section V concludes the paper.

2. Inclusive growth, PPPs and access to public service

2.1 Inclusive Growth: The Mega Construct

Inclusive growth has emerged as a central theme in development discourse, emphasizing the need to ensure that economic growth benefits all segments of society, particularly the poor and marginalized. It seeks to balance wealth creation with equitable access to opportunities, poverty reduction and environmental sustainability (Agarwal, 2024). Agarwal (2024) emphasizes that inclusive growth seeks to boost national wealth and citizen well-being while reducing poverty and ensuring intergenerational equity. However, achieving this balance is challenging, especially in developing economies where government intervention is often necessary to address market failures, but government intervention is sometimes hindered by inefficiency and corruption. Agarwal (2024) draws on Ronald Coase's idea that clear property rights and minimal transaction costs can lead to efficient outcomes without government intervention, highlighting the tension between trust in government and faith in market-based solutions. This underscores the importance of tailoring strategies to local contexts and values to achieve long-term economic growth and well-being.

Inclusive growth has been defined by Jiang and Chen (2021) as economic growth that ensures opportunities are available to all, particularly the poor, to the maximum possible extent. They identify three key aspects of inclusive growth: economic growth, social equity and environmental sustainability. The four levels of economy indicated by Jiang and Chen (2021) in the context of inclusiveness of rural infrastructure are: economic growth, social equity, environmental sustainability and organizational inclusiveness. Similarly, Kessler and Slingerland (2015) redefined this concept as inclusive green growth to highlight sustainability, emphasizing the welfare of current and future generations. They argue that inclusive green growth not only focuses on economic growth to reduce poverty and accommodate a growing population, but also stresses the necessity for growth to be green and inclusive to enhance welfare. This approach also addresses market and governance failures to create synergies between growth, social inclusiveness and environmental sustainability.

In the context of well-being, inclusive growth is broadly defined as economic growth coupled with equal opportunities, ensuring that all members of society, particularly the poor, have equitable access to these opportunities (Rauniyar & Kanbur, 2010). This concept is rooted in the belief that equal access to opportunities is a fundamental human right and is essential for sustainable economic growth. Inequality, on the other hand, undermines growth by leading to inefficient resource utilization, poor institutional quality and social conflict. The Asian Development Bank (ADB) supports this view of inclusive growth and its Long-Term Strategic Framework (LTSF) focuses on creating and expanding economic opportunities, especially for impoverished populations who are often excluded due to various reasons like poor governance and market failures. It also highlights the need to improve policies and institutions to ensure fair access to resources like infrastructure, water, sanitation and credit. Additionally, the ADB stresses the significance of gender equality and women's empowerment in achieving inclusive growth (Rauniyar & Kanbur, 2010).

Ianchovichina and Lundström (2009) assert that while rapid economic growth is crucial for poverty reduction, it must be broad-based and inclusive to ensure long-term sustainability. Additionally, they identify productive employment as a critical driver of inclusive growth, as it generates income and raises productivity and wages over time. Similarly, Khan & Islam (2013) put emphasis on productive employment as a vital option for inclusive development but they further underscore that development can only be inclusive if all groups of people contribute to creating opportunities, sharing benefits and participating in decision-making (Conceicao et al., 2001, as cited in Khan & Islam, 2013). Additionally, Rauniyar & Kanbur (2010) highlight the importance of social inclusion and empowerment in promoting inclusive growth, drawing on the work of Ali and Son (2007). Social inclusion involves removing institutional and policy barriers that hinder economic growth, while empowerment ensures individuals have access to resources to actively participate in the growth process (Rauniyar & Kanbur, 2010).

In the context of inclusive growth, which entails economic growth coupled with equal opportunities, ensuring that all members of society, particularly the poor, have equitable access to these opportunities, infrastructure plays a pivotal role in fostering inclusive growth by connecting marginalized populations to markets, services and economic opportunities (Rauniyar & Kanbur, 2010). Rauniyar and Kanbur (2010) present the transformative impact of rural infrastructure, such as feeder roads, in improving access to healthcare, education and markets, thereby enhancing human capital and productivity. Investments in infrastructure not only stimulate economic activity but also create jobs, lower production costs and improve access to essential services, which are critical for poverty reduction and inclusive development. However, large-scale infrastructure projects require substantial resources and expertise, often beyond the capacity of public sectors. By leveraging private sector expertise and resources, PPPs can address infrastructure development, enabling governments to focus on other pressing social needs. This indeed explain that PPPs can be inclusive growth driver through infrastructure development.

PPPs are increasingly employed for infrastructure development, particularly in sectors like energy, water, transport, health and telecommunications. It is empirically established that by combining public oversight with private sector efficiency, PPPs can deliver high-quality infrastructure and services while ensuring affordability and accessibility for low-income populations. For instance, PPPs can incorporate pro-poor measures such as lifeline tariffs, differential pricing and subsidies to ensure that essential services reach the poor (Panggabean, 2006). Moreover, PPPs can stimulate economic activity by creating jobs and fostering innovation. However, achieving this requires individuals to have access to resources and opportunities created by PPPs.

Therefore, there is potential of PPPs in driving inclusive growth, particularly through infrastructure development and creating equitable access to public service. However, the effectiveness of PPPs in achieving this outcome remains underexplored, especially in the context of developing economies characterized with informal economy and lower purchasing power, like Bangladesh. In these countries PPPs face challenges such as weak institutional frameworks, lack of transparency and social resistance. Therefore, given the country's significant infrastructure gaps, persistent poverty and challenges, it is time to examine whether the PPPs can serve as a catalyst for inclusive growth. This leads to the research question of the study: Do Public-Private Partnerships (PPPs) catalyze inclusive growth in Bangladesh?

2. Public-Private Partnerships (PPPs) as a Catalyst for Inclusive Growth

Infrastructure development is widely recognized as a key driver of economic growth and PPPs have played a significant role in reducing the infrastructure gaps. Therefore, there must have causal relationship between PPPs and economic growth. Studies have established a positive relationship between PPP investments and GDP growth. For instance, Kim et al. (2011, as cited in Lee et al., 2018) demonstrated that increased capital expenditure from PPP investments could expand growth by 0.2% in Korea in 2008. Similarly, Shediak et al. (2008) found that a 1% increase in PPP investment could increase GDP per capita by 0.3%, with countries implementing 70 or more PPP projects experiencing a 25% GDP growth between 1990 and 2003. Beyond GDP growth, PPPs have also been linked to broader development indicators. Hanna and Leszek (2024) found that PPPs positively impact human development, particularly in areas such as health, education and living standards. Atapattu (2019) further supports this by demonstrating the positive effect of PPP infrastructure stock on economic growth in nine developing Asian countries. These above studies vividly present the potential of PPPs at broader scale in driving economic growth and enhancing human development.

PPPs have also found relevant in improving the efficiency and quality of public service delivery. Smitha and Sangita (2008) examined the impact of PPPs on urban governance in Bangalore, finding that they promoted a customer-centric approach through cost reduction, faster service delivery and improved service quality. For instance, the Bangalore Water Supply and Sewerage Board achieved efficiency gains through manpower reduction and outsourcing, while the Bangalore Municipal Corporation improved streetlight maintenance efficiency. In rural settings, PPPs have also shown promise in improving access to essential services. Citing from Bwana (2014) and Oxford (2019), Banda & Jeke (2022) highlights the role of PPPs in enhancing healthcare delivery in Africa, documents employment creation and improved access to transport, clean water and education through PPP. Citing from Rankin et al. (2016), Banda & Jeke (2022) further emphasize the positive impact of PPPs in the agricultural sector, where they have generated employment and improved farmer incomes. These above studies demonstrate the potential of PPPs to enhance access to service and citizen satisfaction and suggest that PPPs can play a vital role in fostering inclusive growth.

PPPs offer several potential channels for boosting economic growth (Lee et al., 2018). These include improving access to and quality of infrastructure, enhancing technical and institutional capacity, transparency and governance through private sector partnerships, optimizing public resource allocation by freeing up funds for other essential services (e.g., education, health) and attracting private long-term investment (e.g., pension, insurance funds) for infrastructure projects (Arezki et al., 2016, as

cited in Lee et al., 2018). Empirical evidence presented by Lee et al., (2018) supports the positive macroeconomic contribution of PPPs, particularly in social and pro-poor infrastructure, which plays a crucial role in poverty reduction by improving access to infrastructure and markets. Therefore, it is evident that access to infrastructure and service is one of the key drivers for inclusive growth.

Despite PPPs' potential in ensuring equitable access to services, PPPs face significant challenges too. Uddin (2019) found that PPPs in South Asia had a limited impact on access to essential services like electricity and sanitation, raising concerns about their effectiveness in addressing infrastructure gaps. Similarly, Datta (2009) highlights equity concerns in "soft" sectors like health, education and water and sanitation, where PPPs often exclude the poor and exacerbate existing inequalities. Besides, the inherent conflict between private sector profit motives and public sector social goals further complicates the image of PPPs. Koven and Strother (2016) note that this conflict requires careful policymaking to ensure that services for vulnerable populations are not compromised. Lee et al. (2018) caution that the benefits of PPPs are conditional on a region's ability to manage complex contracts. Without strong regulatory frameworks and transparent processes, PPPs risk inefficiencies and inequitable outcomes. These studies mainly indicate that without careful design and implementation PPPs cannot deliver their promise of inclusive growth.

Based on above literature, PPPs can serve as a powerful tool for fostering inclusive growth, provided they are designed and implemented with a focus on equity and accessibility in mind. However, the extent to which PPPs contribute to inclusive growth—particularly in terms of ensuring equitable access to public services—remains largely underexplored. Therefore, there is a need for further research to assess the role of PPPs in improving access to public services in driving inclusive growth. To address this gap, this study aims to explore how PPPs enhance access to public services and act as a catalyst for inclusive growth with the following two objectives:

1. To explore the conditions of access to public services that facilitate PPPs as a vehicle for inclusive growth strategies; and
2. To gauge the extent of contribution made by PPPs to inclusive growth objectives based on access to public services.

By achieving these objectives, the study aims to derive useful insights on access to public services, which may aid in designing and implementing PPPs to maximize their inclusiveness.

3. Access to Public Service through Public-Private Partnerships (PPPs)

Access to public services, encompassing services designed to address community needs such as education, healthcare, water and sanitation and infrastructure, is a cornerstone of inclusive growth. These services, ideally delivered equitably regardless of socioeconomic status, aim to improve the quality of life for all. Improving access involves not only increasing service availability but also enhancing affordability, fostering innovation and ensuring user-friendliness. PPPs have emerged as a prominent mechanism for improving access to these essential services, particularly in developing economies facing public sector capacity and resource constraints. However, the delivery of public services traditionally the domain of the public sector, has followed a cyclical evolution. Inefficiencies and resource limitations of the public sector have prompted the involvement of private entities through PPPs.

This cyclical nature is exemplified by historical cases like the Paris water supply system, which transitioned from public to private and back to public ownership (Cassis, De Luca, & Florio, 2015). More recently, the UK's Private Finance Initiative (PFI) in the 1990s marked a significant shift, with private companies designing, building and operating public infrastructure while the government purchased services over a fixed period (Wettenhall, 2003). This model, later rebranded as PPPs and has been adopted globally, including in Bangladesh, where the government has enacted the regulatory frameworks to facilitate private sector involvement in public service delivery. In recent time, the UK government is working to improve public services through the Public Sector Productivity Programme. This includes reforming public services and improving the way they are delivered as well as the government is working to improve the way public and private sector parties share risks in public-private partnerships with the aim of improving public service delivery through focusing on greater transparency, value for money, flexibility and collaboration.

PPPs have the potential to contribute significantly to inclusive growth by improving access to public services and creating economic opportunities for marginalized populations. Smitha and Sangita (2008) demonstrate how PPPs in Bangalore enhanced service delivery efficiency. Similarly, Steyn and Van Heerden (2011) highlight the success of a PPP in Johannesburg's water sector, which improved service delivery, asset maintenance and customer relations while simultaneously building local capacity. Panggabean (2006) notes that PPPs can improve infrastructure coverage and accessibility, create employment opportunities and enhance access to essential services. However, despite their potential, PPPs face challenges in ensuring equitable access to services and impact of PPPs on access to public services is not universally positive.

Uddin (2019) found that PPPs in South Asia had a limited impact on access to essential services like electricity and sanitation, raising concerns about their effectiveness in addressing infrastructure gaps. Similarly, Datta (2009) highlights equity concerns in "soft" sectors like health and education, where PPPs can sometimes exclude the poor and exacerbate existing inequalities. These findings underscore the critical need for pro-poor policies and effective governance to maximize the benefits of PPPs for inclusive growth. Koven and Strother (2016) also caution about potential conflicts of interest between the profit-driven private sector and the social-goal-oriented public sector. They stress the importance of ensuring that services for vulnerable populations prioritize quality, access and equity over profit maximization. Therefore, the sustainability of PPPs for public service delivery in lieu of public sector hinges on their ability to incorporate elements that enhance access to public services.

So, what are the elements PPPs which can help bridge infrastructure gaps and may play critical role for access to public services. Lee et al., (2018) in this regard underscores that success of PPPs depends on strong governance and institutional frameworks to ensure accountability and prevent abuse. Koven and Strother (2016) emphasize the need for careful design and regulation to avoid inefficiencies and inequitable outcomes. Affordability and pro-poor policies are essential for ensuring that PPPs benefit marginalized populations. Panggabean (2006) in this perspective underscores the importance of lifeline tariffs and targeted subsidies to make services affordable for the poor. Panggabean (2006) also mentioned that poorly designed subsidies can disproportionately benefit wealthier households and strain public budgets, necessitating careful targeting and regular tariff reviews. Besides, value-for-money (VfM) must be prioritized in PPP contracts to avoid privileged deals and substandard services.

Moreover, the way financial risks are structured and managed within a PPP significantly impacts the cost and viability of services. Therefore, according to Panggabean (2006) effective risk management is essential and clear contractual arrangements are crucial to ensure accountability and transparency in risk sharing. Timely delivery and environmental considerations are also critical for ensuring access to service delivery (Jamali, 2004; Panggabean, 2006). Panggabean (2006) argues that environmental considerations should be integrated into PPP design and implementation to ensure that services are not only accessible and affordable but also environmentally sound, as sustainable service delivery is implicitly linked to the long-term viability and affordability of PPP projects.

Participatory approach ensures the voices of marginalized communities are heard and their needs are considered in the design and implementation of PPP projects. Community participation and stakeholder engagement are, therefore, crucial for designing PPP projects that effectively meet the needs of the poor. According to Panggabean (2006), public consultations, stakeholder meetings and partnerships with community-based organizations (CBOs) can enhance the responsiveness of PPPs to local needs and priorities. Panggabean (2006) also highlights that competition among service providers is essential for lowering costs, improving access and increasing service reliability. Therefore, PPP policies should prioritize measures that promote competition and avoid replacing public monopolies with private monopolies. Finally, Koven and Strother (2016) emphasize that PPPs must balance private sector profit motives with public sector social goals to ensure that services for vulnerable populations are not compromised.

In sum, PPPs offer a potential avenue for improving access to public services, while also raising important questions. Realizing full potential requires careful consideration of several key factors: infrastructure development, affordability, service quality (including cost and timeliness), pro-poor policies, environmental impact, community participation and stakeholder engagement. These elements are crucial for improving access to public services and promoting inclusive growth. Based on these considerations, a conceptual framework for this study is presented in the next section.

4. Data and methods

4.1 Cases Under Study

For this study, five operational and partially operational projects were selected across various sectors, including road, port, health, water and ICT. While other operational projects exist, notably in the textile sector, these were excluded to maintain a focused analysis on public goods and services. Projects in the energy sector were also excluded due to their distinct regulatory framework. It is important to note that while the Bangladesh Public-Private Partnership Act 2015 promotes inclusive growth objectives, the projects selected for this study were not explicitly aligned with these objectives. Therefore, this study adopts an exploratory approach to understand the design structures of the projects and identify factors believed to be conducive to inclusive growth. Comparisons between the selected projects aim to assess the perceived contribution of each project toward inclusive growth. The projects selected for this study are shown in Table-1 and details are presented in Annexure A.

Table-1: PPP Projects under Study

Name of the Projects	Sector and short name	Contracting authority	Project size	Status
1. Construction of Dhaka-Elevated Expressway	Road PPP	Bangladesh Bridge Authority	US\$ 1.13 billion	Partial Operational
2. Equip, Operate and Maintain Patenga Container Terminal	Port PPP	Chattogram Port Authority	US\$ 170 million	Operational
3. Hemodialysis Centre at Chittagong Medical College Hospital (CMCH) and National Institute of Kidney Diseases and Urology (NIKDU)	Health PPP	Directorate General of Health Services	US\$ 1.6 million	Operational
4. Development of Water Distribution and Supply Facilities at Purbachal New Town, Dhaka on a Public Private Partnership Basis.	Water PPP	Rajdhani Unnayan Karttripakkha	US\$ 80 million	Partial Operational
5. Info-Sarkar Phase-3 (Component 1 and Component 2)	ICT PPP	Bangladesh Computer Council	US\$ 2.73 million	Operational

4.2 Conceptual Framework for the study

The concept of inclusive growth is multifaceted. For the purposes of this study, it is operationalized as access to public services within the context of opportunity creation. This approach was chosen in lieu of a more granular examination of employment, poverty alleviation, intergenerational equity in sustainable resource use, gender equality, decision-making, wealth creation and/or economic freedom. Therefore, the study is guided by following conceptual framework that links PPPs to inclusive growth through improved access to public services (Figure-1).

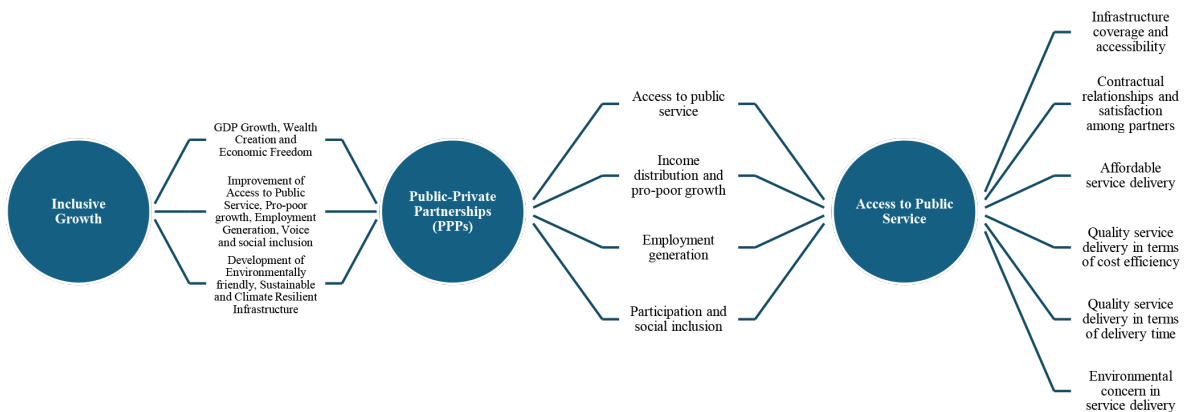


Figure-1: Conceptual Framework of the Study

Source: Authors own construction

The study examined the role played by PPPs in improving access to service delivery across different sectors (Road, Port, Health, Water, ICT) by focusing on the following key factors identified in the conceptual framework. Therefore, access to public service is explained by infrastructure coverage and accessibility, contractual relationships and satisfaction among partners, affordability of the service,

efficiency of service delivery in terms of cost of the service delivered, efficiency of service delivery in terms of timing of the service delivered and environmental concern regarding service delivery.

4.3 Operationalization of Variables for Measuring Access to Public Service through PPPs

This section outlines the operationalization of variables for measuring access to public services through PPPs, incorporating insights from the literature. The variables are categorized according to key dimensions of access, allowing for a comprehensive assessment of PPP performance. The following Table-2 presents measures against each of the six indicators which were utilized in designing questionnaire.

Table-2: Operationalization of Access to Public Service

Indicators	Measures	References
Infrastructure Coverage and Accessibility	Project Completion, Timely Commercial Operation, Linked Project Completion, Regular Maintenance and Employee Turnover	Iossa & Martimort (2015); Lee et al., (2018)
Contractual Relationships and Satisfaction among Partners	Appropriate Partnership Model, Risk Mitigation (Insurance), Contract Management Effectiveness, Win-Win Outcomes and Overall Relationship Quality	Panggabean (2006); Lee et al., (2018); Koven & Strother (2016)
Affordability of the Service	Subsidy/Viability Gap Financing, Minimum Revenue Guarantee/Profit Sharing, Tax Benefits, Non-Tax Benefits and Promotional Initiatives	ADB (2012); Panggabean (2006)
Efficiency of Service Delivery (Cost)	Access to Project Financing, Cost of Financing (WACC), Tariff Schedule Approval, Timely Financial Reporting and Profitability for Private Partner	Panggabean (2006); Koven & Strother (2016)
Efficiency of Service Delivery (Timing)	Delivery time to traditional public sector delivery and neighboring countries, Queuing/Delays, Complaint Handling and Operational Efficiency	Jamali (2004); Panggabean (2006)
Environmental Concern Regarding Service Delivery	Resource Efficiency, CO2 Emissions/ Renewable Energy/Energy Efficiency, Waste Management, Land/Water Use Efficiency and Environmental Pollution	Jamali (2004); Panggabean (2006)

These operationalized variables provide a robust and comprehensive framework for empirically assessing perceptions of the impact of PPPs on access to public services. The use of measures allows for a multifaceted evaluation of PPP performance across various dimensions of access. This approach facilitates a better understanding of how PPPs contribute to improved access to essential public services,

enabling policymakers and practitioners to make informed decisions about PPP design, implementation and evaluation. This study adopts the following hypothesis:

H1: A higher extent of infrastructure coverage and accessibility, satisfaction with contractual relationships, affordability of services, efficiency of service delivery in terms of cost and timing and environmental concerns in service delivery lead to better access to public services delivered by PPP projects, making them catalysts for inclusive growth.

4.4 Data Collection and Analysis Procedures

This study collected data and information from two primary sources: (1) documentation and archival records and (2) a questionnaire survey conducted using Google Forms. Documentation involved gathering relevant published materials, including annual reports, meeting agendas and minutes, newspaper articles, government reports, progress reports, formal studies, consultant reports and information from websites. The primary archival records for this research included project-specific documents, such as PPP contracts. A questionnaire survey was conducted using Google Forms to assess perceptions of PPPs as a driver of inclusive growth (Annexure B). The respondents included PPP implementing officials from both the public and private sectors, line ministry officials, PPP Authority officials and PPP experts. Respondents were selected purposively based on their competence in PPPs and their understanding of the specific projects under study. No service recipients were contacted. The Google Form was distributed to private partners, contracting authorities, line ministry officials and individuals who had previously worked on the projects but were now in different positions. A total of 24 responses were collected, considering resource and time constraints. Table-4 provides the composition of respondents based on the PPP projects.

Table-3: Composition of Key Respondents

Projects	Dhaka Elevated Expressway	Patenga Container Terminal	NIKDU and CMCH Dialysis Centre	Purbachal Water Supply Network	Info-Sarker Phase -3	Total
Number of Respondents	6	4	5	5	4	24

No complex analytical techniques were used for data analysis. Instead, a simple arithmetic procedure was employed to compile scores from the 5-point Likert scale used in the questionnaire. The scores were then converted into percentages to facilitate a clearer understanding of the overall perceptions of the respondents.

5. Findings and policy recommendations

5.1 Findings of the Study

Table 4 presents the survey results. It is important to reiterate that all PPPs in this study are in early stages of development. Differences in sector, contractual arrangements and geographical location make direct comparison across cases challenging. Nevertheless, the findings provide valuable insights into the broader context of PPPs and their influence on access to public services, ultimately affecting opportunity creation and the well-being of service users.

Table-4: Score obtained by each of the PPP in access to service delivery contexts

Measurement of Access to service delivery	Road PPP	Port PPP	Health PPP	Water PPP	ICT PPP
1. Infrastructure coverage and accessibility	3.9	3.1	4.4	3.6	3.5
2. Contractual relationships and satisfaction among partners	4.0	4.0	3.8	4.3	2.2
3. Affordability of the service	3.8	3.1	4.1	3.6	3.1
4. Efficiency of service delivery in terms of Cost of the service delivered	3.5	3.9	3.4	3.8	3.1
5. Efficiency of service delivery in terms of Timing of the service delivered	3.8	3.9	3.9	3.8	3.0
6. Environmental concern regarding service delivery	3.8	3.9	4.0	3.9	3.2
Average Score	3.8	3.6	3.9	3.8	3.0
Inclusiveness in percentage expression	76	72	78	76	60

The survey results reveal varying perceptions of performance across different PPP projects in the context of access to public service delivery. The data, presented as average scores on a Likert-type scale where higher scores indicate more positive perceptions, suggests a generally positive view of PPP performance by the respondents in expressing the PPPs are driver of inclusive growth, although significant variations exist across sectors and specific dimensions of access.

The Health PPP demonstrates the strongest overall perceived performance (average score of 3.9, representing 78% inclusiveness), indicating positive perceptions regarding infrastructure coverage and accessibility (4.4), affordability (4.1) and environmental concerns (4.0). This suggests that Health PPPs are perceived as effectively addressing community needs in these areas. Road PPPs also exhibit relatively strong performance (average score of 3.8, 76% inclusiveness), particularly in infrastructure coverage and accessibility (3.9) and contractual relationships (4.0). Water PPPs mirror this overall performance (average score of 3.8, 76% inclusiveness) with strong scores in contractual relationships (4.3) and environmental concerns (3.9).

Port PPPs, while generally viewed favorably (average score of 3.6, 72% inclusiveness), show lower perceived performance in infrastructure coverage and accessibility (3.1) and affordability (3.1) compared to the other sectors. The most notable variation occurs in the ICT PPP. While the average score (3.0, 60% inclusiveness) suggests a less positive overall perception, the most significant weakness lies in contractual relationships and partner satisfaction (2.2). This suggests potential challenges in the design and management of ICT PPP contracts, potentially impacting service delivery and stakeholder satisfaction. Furthermore, affordability (3.1), cost efficiency (3.1), timing efficiency (3.0) and environmental concerns (3.2) are also perceived as areas needing improvement within ICT PPPs.

This divergence in perceived performance across sectors highlights the importance of context-specific analysis in evaluating PPP effectiveness. While some sectors, like Health, Road and Port, are perceived

to be delivering positive outcomes, ICT PPP, require further investigation to understand the underlying challenges and identify potential solutions. The lower scores in certain dimensions, even within generally well-performing sectors particularly road, port and water, suggest areas where targeted interventions could further enhance the impact of PPPs on access to public services.

All projects under study represent significant milestones in the nation's investment and growth, achieved through infrastructure development and the creation of service delivery facilities. Both content analysis and survey data analysis reveal that all projects fulfill public policy objectives: health service delivery to the poor and marginalized, ICT service delivery to rural citizens (bridging the digital divide), port services to the business community (transforming logistics), water supply and sanitation services for new residents in the Purbachal area and congestion-free transportation for Dhaka city commuters. While contracts do not stipulate that projects must incorporate green and climate-resilient initiatives, the use of advanced technology and environmental awareness regarding pollution, resource utilization and waste management are evident.

Therefore, based on empirical results, it can be concluded that all projects under study demonstrate significant potential as drivers of inclusive growth. However, their role cannot yet be definitively termed robust or insignificant, as most have only recently commenced operation, either after full or partial completion of construction. Furthermore, variations in project size and sector make direct comparison challenging. Nevertheless, the study's results can inform appropriate interventions in contractual arrangements, potentially enhancing the inclusivity of these and future projects.

Finally, all cases, to varying extents, experienced challenges related to the country context, such as land acquisition, economic conditions, capacity constraints, utility relocation and transparency and accountability issues. These challenges can undermine optimal service delivery. Such issues are often reflected in weak legal enforcement of contract provisions, as these problems mostly originate within the public sector. Therefore, a shared understanding of contractual provisions by both parties, along with effective enforcement, is essential to ensure better access to public service.

5.2 Policy Recommendations

Public-Private Partnerships (PPPs) have the potential to serve as a catalyst for inclusive growth, but their success in improving access to public service depends on several factors. Based on the literature and empirical findings, the following policy recommendations are devised to enhance the effectiveness of PPPs in driving inclusive growth:

Framing Pro-Poor PPP Policies

PPP regulatory frameworks must explicitly prioritize universal service access as a key performance goal. Without such objectives, there is a risk that PPPs will focus on serving wealthier populations, leaving the poor underserved. Pro-poor measures, such as lifeline tariffs, differential pricing and subsidies, should be carefully designed to ensure affordability without compromising project viability. Governments should also consider providing public grants to extend the social benefits of PPPs, particularly in underserved areas.

Improving Project Preparation and Procurement

A thorough value-for-money (VfM) analysis should be conducted before initiating any PPP project and continuous monitoring of VfM throughout the project lifecycle need to be done. Standardized

frameworks for VfM assessment and performance evaluation should be developed and adopted by implementing agencies to ensure consistency and accountability. Additionally, PPP structuring and procurement processes must emphasize proper risk allocation and competitive service delivery to ensure affordability and accessibility for the poor.

Increasing Social Acceptability and Competency Building

PPPs often face resistance due to a lack of trust between public and private sectors and limited public awareness of their benefits. To address this, governments should invest in social awareness campaigns to highlight the advantages of PPPs in improving access to public services. Simultaneously, capacity-building initiatives, such as PPP toolkits, model documents and standardized training modules, should be developed to enhance the competencies of public officials. Training programs should be institutionalized across training organizations to ensure that officials are equipped to manage PPP projects effectively.

Encouraging Participation and Innovation

Involving the poor and local communities in PPP project design and implementation can enhance responsiveness to their needs. Public consultations, stakeholder meetings and partnerships with NGOs or community-based organizations (CBOs) can ensure that projects align with local priorities. Community-based PPP initiatives, particularly in underserved regions, can serve as a bridge between large-scale projects and localized needs, fostering innovation and inclusivity.

Strengthening Institutional Capacity and Governance

Governments must prioritize strengthening institutional capacity, legal frameworks and regulatory mechanisms to ensure transparency and accountability in PPP processes. Good governance practices, such as competitive bidding and clear contract enforcement, are essential to prevent monopolistic behavior and ensure that PPPs deliver VfM.

In summary, PPPs can be a powerful tool for inclusive growth if they are designed and implemented with a clear focus on equal opportunity creation and well-being of the citizen. By framing pro-poor policies, improving project preparation, building social acceptability, engaging local communities and strengthening institutional capacity, governments can ensure that PPPs deliver equitable and sustainable benefits to all segments of society.

6. Conclusion

Public-Private Partnerships (PPPs) hold promise as a public policy tool for improving access to public services and driving inclusive growth. This study explored the role of PPPs in enhancing access to public services as a catalyst for inclusive growth by examining five PPP projects across the transport, shipping, health, water and ICT sectors. The findings reveal that PPPs in Bangladesh demonstrate the potential to improve access to public services. By focusing on key dimensions of access and incorporating stakeholder perspectives, the research provides a comprehensive understanding of the factors that facilitate their performance in enhancing access to public services. The findings emphasize the importance of inclusiveness in project design, equitable risk-sharing, contract governance and community participation to promote equal opportunities and the well-being of citizens.

However, the study also acknowledges its limitations. The early stage of development for the projects makes it difficult to fully assess their long-term impact and sustainability. Additionally, service recipients' perceptions were not documented in this study. Furthermore, this study focused exclusively on access to public service delivery to understand its role as a driver of inclusive growth. As a result, it leaves room for future studies to explore other components of inclusive growth, such as pro-poor perspectives, employment generation, social inclusion and public participation, while incorporating service recipients as one of the key stakeholders.

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Annexure A-1

1. Construction of Dhaka Elevated Expressway Project	
Sector: Transport (Road PPP)	
Project Overview: A large-scale infrastructure project aimed at alleviating traffic congestion in Dhaka through the construction of a 23 km elevated expressway.	Key Features: <ul style="list-style-type: none"> • Improved, though partially completed, infrastructure coverage and accessibility. • Toll-based financing model with 27% Viability Gap Financing (VGF). • Significant potential for economic and social benefits. • Mostly congestion-free travel.
Implementing Agency: Bangladesh Bridge Authority	Private Party: China Shandong International Economic & Technical Cooperation Group Ltd. (CSIEC)
Project Size: USD 1.13 billion	Financing Structure: 68.5% Debt, 31.5% Equity
Contractual Model: Design, Build, Finance, Operate and Maintain (DBFOM), Mixed-Pays PPP	
Commercial Close Date: December 11, 2013 (Revised)	Commercial Operation Date (COD): Partially operational since September 3, 2023 (Airport to Farmgate & FDC gate area)
Service Recipients/Users: 44,148 (average daily traffic since partial operation commenced)	Service Delivery Time: 10 minutes travel time from Airport to Farmgate & FDC gate area
Fee/Tariff: Category 1: 80 taka; Category 2: 160 taka; Category 3: 320 taka; Category 4: 400 taka	Employees: 5000+
Environmental Initiatives: Adheres to government-applicable rules and policies.	

Annexure A-2

2. Equip, Operate and Maintain Patenga Container Terminal	
Sector: Shipping (Port PPP)	
Project Overview: Operation and maintenance of a newly constructed container terminal at Chittagong Port to increase port capacity.	Key Features: <ul style="list-style-type: none"> • Focus on enhancing port infrastructure and efficiency. • Potential to improve trade and logistics. • Financially self-sustaining project. • Improved service delivery timing.
Implementing Agency: Chittagong Port Authority	Private Party: Red Sea Gateway Terminal (RSGT) Bangladesh Ltd.
Project Size: USD 170 million	Financing Structure: 70% Debt, 30% Equity (maximum)
Contractual Model: Operate and Maintain (O&M), User-Pays PPP	
Commercial Close Date: December 6, 2023	Commercial Operation Date (COD): June 11, 2024
Service Recipients/Users: 500+	Service Delivery Time: 30 minutes
Fee/Tariff: As per Chittagong Port Authority Tariff book dated 2008	Employees: 306
Environmental Initiatives: Adheres to IFC, ADB standards.	

Annexure A-3

3. Hemodialysis Centre at CMCH and NIKDU	
Sector: Health (Health PPP)	
Project Overview: Establishment of two hemodialysis centers at Chittagong Medical College Hospital (CMCH) and the National Institute of Kidney Diseases and Urology (NIKDU) to increase access to affordable dialysis services.	Key Features: <ul style="list-style-type: none"> • Significant social impact through improved access to life-saving treatment. • Approximately 82% subsidized services. • Focus on affordability and quality of service. • Service delivery without delays.
Implementing Agency: Directorate General of Health Services (DGHS)	Private Party: Sandor Healthcare Industries Ltd.
Project Size: BDT 250 million	Financing Structure: Debt: 90 million; Equity: 160 million
Contractual Model: Supply, Install, Operate and Maintain, Mixed-Pays PPP	
Commercial Close Date: January 27, 2015	Commercial Operation Date (COD): November 26, 2016
Service Recipients/Users: 260-280/ Day	Service Delivery Time: 4 hours per session
Fee/Tariff: Starting with BDT 400 (referred) and BDT 2,190 (private), increasing annually by 5%.	Employees: 180-205
Environmental Initiatives: Adheres to Government Structure.	

4. Development of Water Distribution and Supply Facilities at Purbachal New Town	
Sector: Housing (Water PPP)	
Project Overview: Development of water distribution and supply facilities in the Purbachal New Town near Dhaka.	Key Features: <ul style="list-style-type: none"> • Integrated approach to urban water management. • Potential to improve quality of life and public health. • Partially completed infrastructure coverage and accessibility. • Service delivery without delays.
Implementing Agency: Rajdhani Unnayan Kartripakkha (RAJUK)	Private Party: Delcot Bangladesh
Project Size: USD 80 Million	Financing Structure: Information not available
Contractual Model: DBFOM, Government-Pays PPP	
Commercial Close Date: November 11, 2019	Commercial Operation Date (COD): February 02, 2023 (Partial)
Service Recipients/Users: Rajuk at present	Service Delivery Time: Information not available
Fee/Tariff: Based on pre-agreed amount	Employees: Information not available
Environmental Initiatives: Information not available	

Annexure A-5

5. Info-Sarkar Phase-3 (Component 1 and Component 2)	
Sector: ICT (ICT PPP)	
Project Overview: Improvement of internet connectivity in rural areas of Bangladesh by developing network infrastructure and backbone network.	Key Features: <ul style="list-style-type: none"> • Focus on bridging the digital divide. • Potential to enhance access to information and communication technologies. • Completed infrastructure and accessible. • Improved service delivery timing.
Implementing Agency: Bangladesh Computer Council	Private Party: <ul style="list-style-type: none"> • Advanced Digital Solutions Limited (Component 1), • SecureNet Bangladesh Limited (Component 2)
Project Size: US\$ 2.73 Million	Financing Structure: Information unknown
Contractual Model: O&M, User-Pays and Revenue sharing	
Commercial Close Date: 22 May 2023	Commercial Operation Date (COD): May 1, 2024 (Component 1), April 30, 2024 (Component 2)
Service Recipients/Users: 1400+ ISPs	Service Delivery Time: As per requirement of the clients
Fee/Tariff: As per BTRC Guidelines	Employees: 200+
Environmental Initiatives: Information not available	

Annexure B

Survey Questionnaire on Service Delivery Performance of PPP Projects

Welcome to the survey on PPP projects, particularly focusing on their service delivery performance. Your expertise in policy and project implementation will be invaluable in evaluating these projects. We highly appreciate your time and effort in participating in this survey. Please answer the following questions.

1. Name of the respondent:
2. Organization of the respondent:
3. Please identify the project on which you feel comfortable to give your valuable feedback.
 - d. Dhaka Elevated Expressway PPP
 - e. Patenga Container Terminal PPP
 - f. NIKDU and CMCH Dialysis PPP
 - g. Purbachal Water Supply PPP
 - h. Info Sarker Phase-3 PPP
9. Please assess service delivery performance based on following aspects of PPP. Here, 1- indicates disagree and 5 -indicates agree, others are in between.
 - j. Infrastructure coverage and accessibility
 - k. Partnership arrangement and satisfaction among partners
 - l. Affordability of the service delivered
 - m. Efficiency of service delivery in terms of cost
 - n. Efficiency of service delivery in terms of timing of service delivery
 - o. Environmental concern in service delivery.

a. Consideration in assessing infrastructure coverage and accessibility

Considerations	1	2	3	4	5
1. The construction of project infrastructure completed timely					
2. Commercial operation of the project started timely					
3. Linked projects connected to the project completed in time					
4. Regular and periodic maintenance of facility is done properly					
5. Employee turnover in the project company is high					

b. Consideration in assessing partnership arrangement and satisfaction among partners

Considerations	1	2	3	4	5
1. The contractual arrangement between partner is satisfactory					
2. All project facilities are covered by insurance					
3. Monitoring and supervision of the contract provision is done regularly					
4. Negotiation outcome can be termed as win-win					
5. Positive and trustworthy relationship prevails among the public and private partner					

c. Consideration in assessing affordability of service

Considerations	1	2	3	4	5
1. Government support in terms of subsidy or viability gap financing improved access to all					
2. Several other incentives prevail in the partnership arrangement					
3. Project company enjoy some tax benefits from the government					
4. Sufficient land and other utility support given to the project					
5. There are several promotional initiatives for the users of the service					

d. Consideration in assessing efficiency of service delivery in terms of cost

Considerations	1	2	3	4	5
1. Project company easily financed the project through project financing					
2. Weighted average cost of capital is low compared to other non-PPP projects					
3. There is timely approval and adjustment of the tariff schedule					
4. There is regular submission of yearly audited financial statement by the private partner					
5. The project is a profitable venture for the investors					

e. Consideration in assessing efficiency of service delivery in terms of timing

Considerations	1	2	3	4	5
1. Delivery is prompt compared to traditional public sector delivery					
2. Delivery is prompt compared to other neighboring countries					
3. There is no queuing and delay in service delivery					
4. Complaint regarding service delivery time is handled with professional manner					
5. Operational efficiency of the project is at full scale					

f. Consideration in assessing environmental concern in service delivery

Considerations	1	2	3	4	5
1. The project use resource efficiently					
2. The project reduces C02 emissions, uses of renewable energy and is energy efficient					
3. The project produces less waste or has improved waste management system					
4. The project uses land and water efficiently					
5. The project reduces environmental pollution in terms of soil, water and air pollution					

This is the end of the survey.

Thank you very much.

Author Contribution Statements

First author of the article contributed conceptualization and manuscript writing while the second author contributed to data collection and analysis.

Conflict of Interest

We declare that we do not have any financial, personal or professional conflict of interest.

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