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Article

Infrastructure governance and project appraisal: Institutional mechanisms for public investment management

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Abstract: Infrastructure project appraisal is a critical function of public investment management, especially in developing economies where fiscal discipline and institutional capacity are under pressure. This study analyzes the institutional mechanisms of appraisal, focusing on the Development Project Proposal (DPP) system and the role of the Project Evaluation Committee (PEC) as instruments of governance and accountability. The paper identifies recurring challenges such as optimistic costing, weak feasibility studies, and overlapping project scopes by using a qualitative institutional process analysis method. It also highlights the corrective role of appraisal deliberations in safeguarding fiscal credibility and infrastructure quality. The findings emphasize the need to strengthen upstream project preparation, set technical appraisal expertise, and institutionalize feedback loops. Beyond the specific national context, the study contributes to the literature on infrastructure policy by demonstrating how appraisal committees function as essential gatekeepers for sustainable public investment in developing-country contexts.

Keywords: infrastructure governance; project appraisal; public investment management (PIM); institutional capacity; sustainable development; Bangladesh

1. Introduction

Public investment serves as a cornerstone in promoting economic growth, infrastructure development, and social welfare in developing economies. Global evidence highlights that the quality of governance in project selection and appraisal matters just as much as the volume of expenditure. Weak project preparation, optimistic costing, and poor feasibility analysis often lead to cost overruns, implementation delays, and diminished outcomes. International frameworks like the World Bank and OECD emphasize rigorous appraisal as a safeguard for fiscal credibility and accountability. Effective appraisal systems ensure that projects are aligned with national priorities, technically feasible, economically viable, and institutionally implementable.

In Bangladesh, development projects financed through the Annual Development Programme (ADP) undergo a structured appraisal process coordinated by the Planning Commission. Central to this process are the Development Project Proposal (DPP) and the Project Evaluation Committee (PEC). While formal guidelines are well documented, limited academic attention has been paid to how appraisal functions in practice under institutional and capacity constraints. This article addresses that gap by examining appraisal as an institutional and organizational decision-making process. While this study focuses on Bangladesh's institutional framework, its findings address a global challenge in infrastructure governance. Specifically, they highlight the persistent 'implementation gap' between formal appraisal guidelines and the practical

constraints of project gatekeeping.

Instead of evaluating individual projects, this study focuses on procedural practices, recurring challenges, and lessons from routine front-end appraisal and approval. It seeks to answer how project appraisal operates as a governance mechanism within the public investment system by addressing two primary research questions:

1. How do the procedural practices of the DPP and PEC influence the quality and feasibility of project preparation?
2. What institutional lessons emerge from the 'Implementation Gap' between formal appraisal guidelines and practical gatekeeping in a developing economy context?

This study contributes to the literature in three ways. First, it provides a process-based institutional analysis of project appraisal within Public Investment Management systems, moving beyond normative frameworks. Second, it conceptualizes appraisal committees as corrective governance mechanisms that operate under institutional and capacity constraints. Third, it offers empirical insights from Bangladesh to address the gap between formal appraisal design and practical implementation in developing-country contexts. The remainder of the paper is organized as follows:

- Section 2 provides a theoretical foundation by reviewing the literature on Public Investment Management (PIM) and infrastructure governance.
- Section 3 details the institutional framework of development project appraisal in Bangladesh.
- Section 4 explains the conceptual framework of project appraisal
- Section 5 outlines the research design and methodological strategy.
- Section 6 examines the Development Project Proposal (DPP) lifecycle in practice.
- Section 7 explains an analysis of the role of the Project Evaluation Committee (PEC).
- Section 8 identifies common appraisal challenges observed in the field level.
- Section 9 provides a critical discussion of these findings.
- Section 10 outlines key lessons and policy implications for strengthening the appraisal system
- Section 11 offers concluding remarks on the future of infrastructure governance.

2. Literature review: Public investment management and project appraisal

The effective management of public investment has become a central concern in development economics and public administration. The focus reflects the need to improve the efficiency and usefulness of infrastructure spending in low- and middle-income countries. Weak appraisal and project selection are widely recognized as major causes of cost overruns, delays, and poor outcomes (Flyvbjerg, 2014; IMF, 2015). Global frameworks from the World Bank, IMF, and OECD describe public investment management as a lifecycle process. In this process, appraisal acts as a critical gatekeeping stage, linking national priorities with fiscal discipline and implementation feasibility (World Bank, 2018; OECD, 2015).

Despite this emphasis, much of the literature remains normative, focusing on what appraisal systems should achieve rather than how they operate in practice. This

gap is particularly evident in developing countries where fiscal space is constrained and institutional capacity is uneven. South Asian evidence highlights recurring weaknesses in feasibility studies, governance arrangements, and inter-agency coordination (ADB, 2020; World Bank, 2018). These findings underscore the need for closer examination of appraisal as an institutional process including the corrective role of deliberative bodies such as the Project Evaluation Committee (PEC).

2.1. Public investment management frameworks

Public investment management is commonly understood as a lifecycle process that spans strategic planning, appraisal, selection, budgeting, implementation, and evaluation. Appraisal acts as a gatekeeping stage within this framework. It ensures projects are aligned with national priorities, fiscally credible, and institutionally feasible. The World Bank (2018) and Rajaram et al. (2014) emphasize that effective appraisal links upstream planning with downstream implementation, reducing inefficiencies and maximizing developmental impact.

The IMF's Public Investment Management Assessment (PIMA) framework (2018) and its updated handbook (2022) provide diagnostic tools for evaluating national appraisal systems. They show that countries with stronger appraisal practices achieve higher returns on investment. The OECD (2015, 2020, 2022) likewise highlights appraisal as a safeguard for transparency and accountability in infrastructure governance. Taken together, these frameworks position appraisal not only as a technical exercise but as a cornerstone of effective public investment management.

2.2. Importance of project appraisal in developing countries

In developing economies, rigorous project appraisal is undoubtedly critical where fiscal space is constrained and administrative capacity uneven. Weak preparation, premature approvals, and optimistic cost estimates often undermine efficiency across the investment cycle (Rajaram et al., 2014; Flyvbjerg, 2014, 2017). These risks are compounded by political pressures and optimism bias, allowing under-prepared projects to move forward despite technical shortcomings. Recent IMF assessments point out that weaknesses in appraisal remain a major bottleneck in low-income countries. These shortcomings reduce the effectiveness of scarce public resources (IMF, 2022). OECD reviews similarly emphasize that appraisal safeguards are essential for ensuring fiscal credibility and developmental impact in contexts of limited capacity (OECD, 2022).

2.3. Institutional approaches to project appraisal

Beyond technical analysis, institutional arrangements shape how appraisal criteria are applied and how evidence is weighed against political priorities. Effective systems rely on coordination bodies and inter-agency committees to reduce duplication and strengthen collective decision-making (World Bank, 2018). The OECD (2020, 2022) underscores that governance frameworks and transparent evaluation practices not only improve accountability but also reduce fiscal risks. In South Asia, reforms such as standardized appraisal formats and centralized review

mechanisms have been introduced. Yet challenges remain in ensuring methodological rigor and institutional coherence (ADB, 2021). These insights show that appraisal functions both as a technical safeguard and as an institutional mechanism shaped by governance and administrative capacity.

2.4. Feasibility, governance, and regional evidence in developing contexts

Feasibility studies and cost-benefit analyses remain central to project appraisal. Yet in many developing contexts, they are prepared more as compliance documents than as rigorous analytical tools. This limits their usefulness for decision-making and often leads to optimistic costing and exaggerated benefit projections. Global evidence highlights that optimism bias and strategic misrepresentation frequently undermine appraisal credibility (Flyvbjerg, 2014). The IMF's PIMA Handbook emphasizes that stronger upstream preparation, methodological rigor, and realistic costing are essential to safeguarding fiscal sustainability (IMF, 2022).

The dimensions of governance and accountability are equally critical. Transparent appraisal processes reduce rent-seeking and build public trust. In contrast, opaque systems increase fiscal risks and weaken institutional credibility. According to the OECD's governance reviews, policy evaluation and open appraisal frameworks are essential for improving decision quality and ensuring alignment with national priorities (OECD, 2020; OECD, 2022). They highlight the need for appraisal systems that combine technical rigor with institutional realism, recognizing administrative capacity constraints and budget cycle pressures.

Evidence from South Asia shows how these challenges appear in practice. Studies by the World Bank (2018) and the Asian Development Bank (2024) report persistent weaknesses in project preparation, cost escalation, and duplication across Bangladesh, India, and Nepal. Despite standardized appraisal guidelines and centralized review mechanisms, feasibility studies often remain generic. Governance pressures also continue to shape approval decisions. These regional experiences show that feasibility, governance, and institutional practice are closely interconnected. To improve the quality of public investment, reforms must address these dimensions together.

2.5. Gap in the literature

Much of the existing scholarship on Public Investment Management (PIM) is normative, focusing on ideal frameworks and international best practices (Rajaram et al., 2014; World Bank, 2021). These studies often prescribe how systems should function under optimal conditions. However, there is a recognized 'implementation gap' when these models are applied in complex, developing contexts.

While existing studies emphasize technical appraisal frameworks, they largely overlook how institutional dynamics shape decision-making in practice. In particular, limited attention is given to the procedural, deliberative, and inter-agency dimensions of project appraisal.

This study addresses this gap by examining how appraisal operates in practice through institutional and deliberative processes. It moves beyond theoretical guidelines to examine the real-world tensions, political economy, and negotiation

processes within the PEC system. By focusing on the 'how' of project gatekeeping, this research situates descriptive investigation within the broader PIM literature. It challenges a tradition that has historically favored theoretical over empirical perspectives. Building on the literature, this study conceptualizes project appraisal as a governance mechanism that operates through institutional processes linking project preparation and implementation outcomes. This conceptualization is further elaborated in Section 4.

2.6. Institutional framework of development project appraisal in Bangladesh

The Planning Commission of Bangladesh is mandated to appraise and approve development projects in line with national development plans, sector strategies, and fiscal priorities. Sector Divisions within the Commission are responsible for conducting all kinds of appraisals of project proposals submitted by line ministries and implementing agencies. The appraisal process has been documented in previous institutional studies (Rahman, 2025).

Project appraisal is governed by the Guidelines for formulation, processing, approval and revision of development projects in the public sector (Planning Division, 2022), commonly referred to as the “Green Book”. These guidelines are supported by complementary instruments such as the Sector Appraisal Format (SAF), the Ministry Assessment Format (MAF), and the Handbook for DPP Preparation. They are further supported by feasibility study formats and the Public Investment Management Guidelines (Programming Division, 2023). Financial thresholds outlined in the Green Book determine the Approval authority for development projects. Projects with estimated costs up to Tk. 50 crore is approved by the Minister for Planning. On the other hand, those exceeding Tk. 50 crore requires approval from the Executive Committee of the National Economic Council (ECNEC). This bifurcation ensures proportionate scrutiny, as reflected in **Figure 1**.

To provide a clear overview of how appraisal guidelines and formats actually work across the institutions, **Figure 1** presents a flow diagram of the Development Project Proposal (DPP) appraisal process. The diagram clearly illustrates the role of the Project Scrutiny Committee (PSC), Ministry Assessment Format (MAF), and other instruments that structure the pathway from preparation to approval.

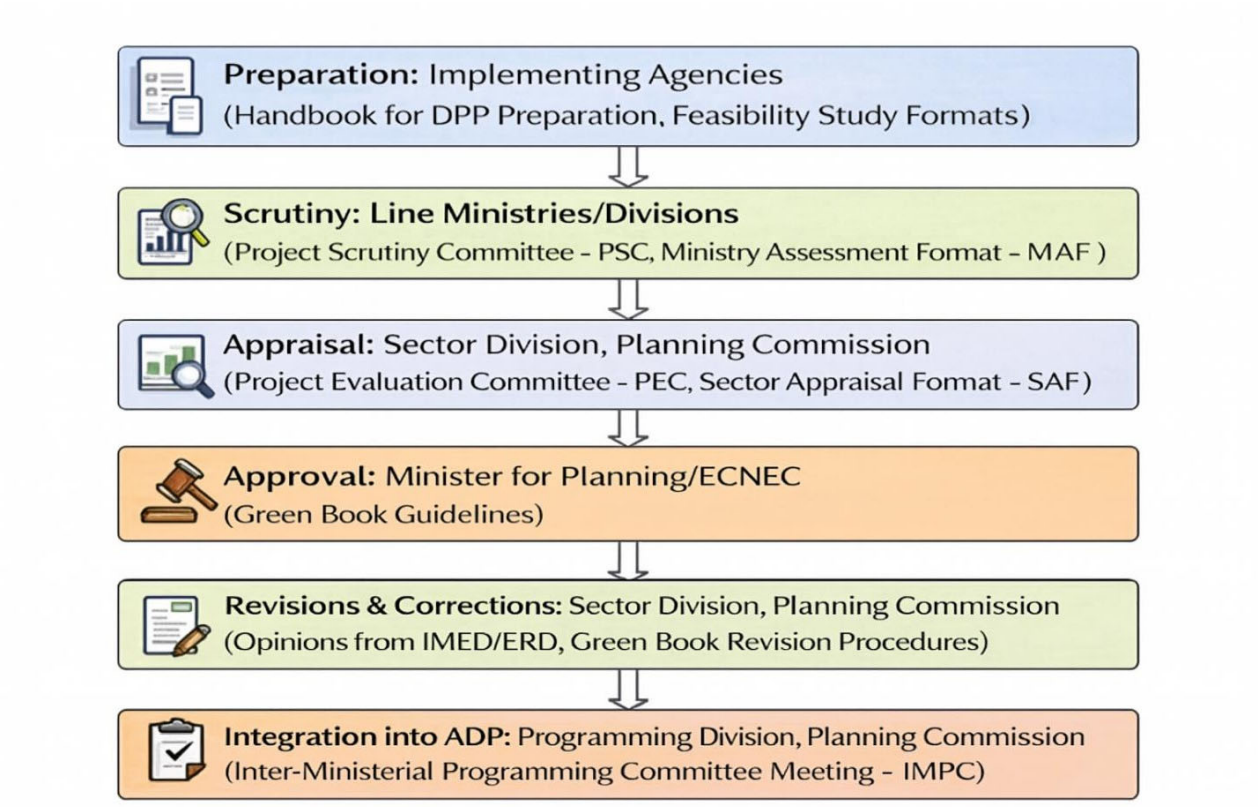

Figure 1. Flow diagram of the development project appraisal and approval process in Bangladesh. Source: Author's synthesis based on Planning Commission guidelines and institutional practice.

The appraisal process is a key component of the wider public investment management framework. This process directly or indirectly links project selection to national plans, the Medium-Term Budget Framework (MTBF), and the ADP. The Project Evaluation Committee (PEC) acts as the principal forum for inter-agency scrutiny and coordination during preliminary appraisal.

While **Figure 1** outlines the sequential logic of appraisal and approval, **Figure 2** shifts the focus from process to governance by mapping the institutional actors and decision-making relationships that shape these stages. It demonstrates the institutional architecture governing development project planning, appraisal, and approval in Bangladesh. It also highlights the central role of the Planning Commission and its interaction with line ministries and top decision-making bodies.

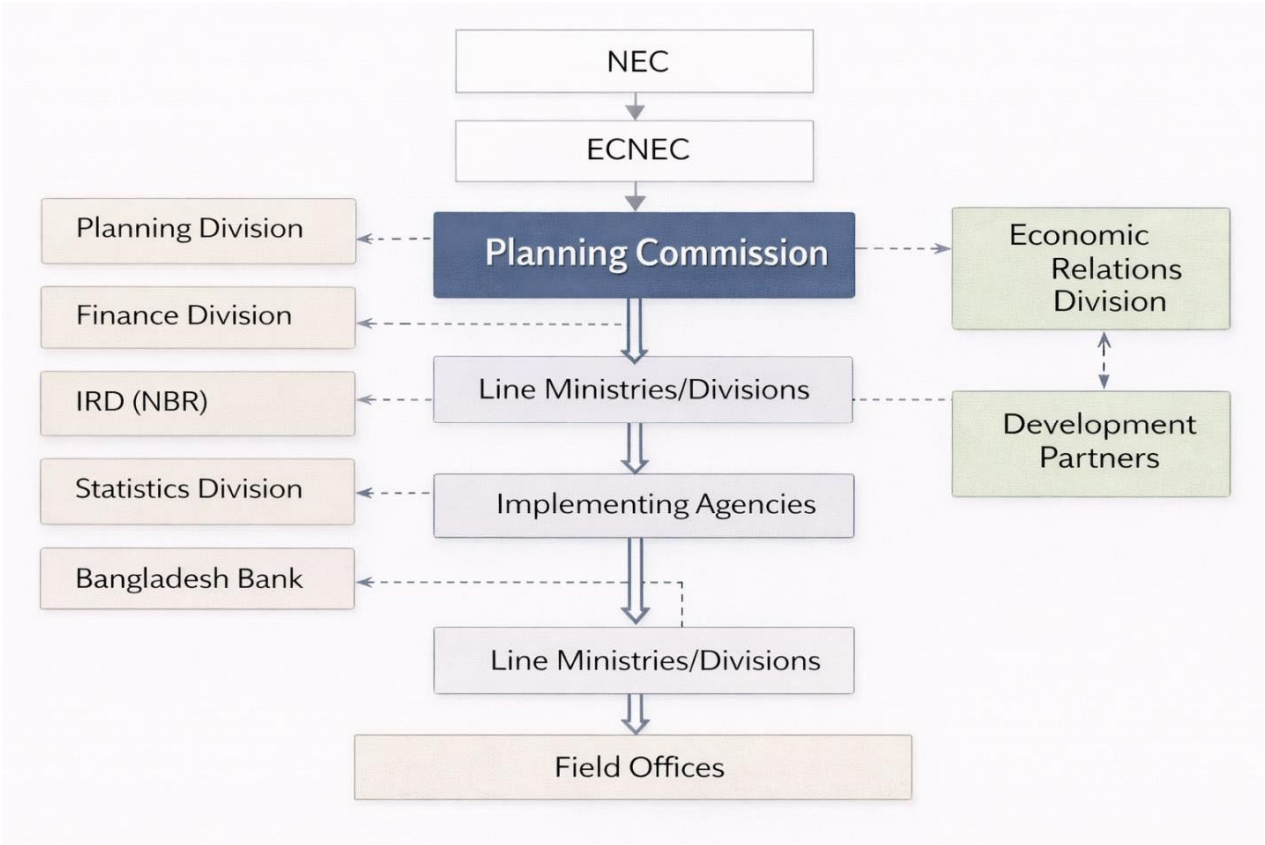

Figure 2. Development Administration and Project Approval Architecture in Bangladesh. Source: Adapted from Economic Relations Division (ERD).

2.7. Institutional committees relevant to DPP appraisal and implementation

A range of committees validate the appraisal and implementation of development projects in Bangladesh. These bodies operate at various stages of the project cycle, ensuring technical scrutiny, fiscal credibility, and institutional oversight. **Table 1** below briefly presents their roles, leadership, and procedural notes.

Table 1. Institutional Committees in Development Project Appraisal and Implementation.

Committee	Role	Stage	Chaired by	Notes
PSC (Project Scrutiny Committee)	Initial screening	Scrutiny	Secretary of the Sponsoring Ministry	Uses MAF
PEC (Project Evaluation Committee)	Technical appraisal	Appraisal	Member (Secretary) of Planning Commission	Uses SAF
DPEC (Departmental PEC)	Ministry-level appraisal	Appraisal	Secretary of the Sponsoring Ministry	Often precedes PEC
NEC / ECNEC	Final approval	Approval	Prime Minister	Above Tk. 50 crore threshold
PAC (Project Advisory Committee)	Strategic oversight	Cross-cutting	Minister for Planning	High-level guidance

PIC (Project Implementation Committee)	Execution coordination	Implementation	Head of Implementing Agency	Field-level decisions
PSC (Project Steering Committee)	Policy-level monitoring	Implementation	Secretary of Sponsoring Ministry	Ministry-level decisions

Source: Author's synthesis based on Planning Commission guidelines, Green Book rules, and institutional practice.

Scrutiny, appraisal, and evaluation are distinct stages of the project cycle. Specifically, scrutiny refers to initial screening at the ministry level through the Project Scrutiny Committee (PSC). In contrast, Appraisal denotes the technical review conducted by the concerned wing of the Planning Commission and the Project Evaluation Committee (PEC). It mostly focuses on feasibility, costing, and alignment with national priorities. Finally, evaluation covers performance assessment either ex-ante within appraisal deliberations or ex-post through monitoring by agencies such as IMED. This paper uses the terms in line with their dedicated institutional usage.

Note: Technical Assistance Project Proposals (TAPPs) and Technical Project Proposals (TPPs) are reviewed by the Special Project Evaluation Committee (SPEC) and Departmental SPEC (DSPEC). As this study focuses on DPPs and the role of the PEC, these committees are acknowledged but remain outside the scope of analysis.

2.8. Comparative perspective

Bangladesh's committee architecture mirrors international practices in several ways. Project Steering Committees (PSC) and Project Implementation Committees (PIC) resemble governance structures found in donor-funded projects worldwide. In these arrangements, steering committees provide policy oversight, while implementation committees handle operational coordination. Appraisal bodies such as the PEC and DPEC also parallel systems in countries like India and Malaysia, where ministry-level appraisal precedes central planning commission review. This layered oversight reflects broader global trends identified by the OECD (2015) and the World Bank (2018). These frameworks suggest that inter-agency committees and collective decision-making strengthen appraisal quality by reducing duplication, balancing technical scrutiny with political accountability, and improving resource allocation. Taken together, these features indicate that Bangladesh's appraisal system operates within a broader governance logic in which coordination mechanisms serve as key instruments for managing complexity and improving decision quality. This analytical perspective provides the basis for the conceptual framework developed in the following section.

4. Conceptual framework of project appraisal

Building on the institutional context described in Section 3, this section develops an analytical framework to conceptualize project appraisal as a governance mechanism. Rather than treating appraisal as a purely technical or procedural stage, the framework conceptualizes it as an institutional process that links project preparation with implementation outcomes.

The framework is structured around three components: inputs, institutional

process, and outputs and outcomes.

The inputs consist of feasibility studies, Development Project Proposals, and the institutional capacity of implementing agencies. These elements define the initial conditions under which appraisal takes place. In practice, they often reflect constraints such as limited data, weak analytical rigor, and optimistic cost estimates.

The institutional process represents the core of the framework and is centered on the appraisal mechanism, particularly the role of the Project Evaluation Committee. As shown in **Figure 3**, this process unfolds in three stages. First, technical preparation is carried out through scrutiny by desk officers and the preparation of working papers for committee deliberation. Second, inter-agency appraisal takes place through coordination among stakeholders and structured deliberation. Third, project proposals undergo iterative refinement, where revisions are made in response to identified weaknesses. This sequence forms an institutional feedback loop through which deficiencies in project design are systematically identified and corrected.

The outputs of this process include improved cost realism, stronger feasibility analysis, reduced duplication across projects, and more realistic implementation planning. These outputs contribute to broader outcomes, including enhanced fiscal credibility, more efficient resource allocation, and improved infrastructure performance.

The framework highlights that appraisal outcomes are shaped by the interaction between formal rules and institutional practices. Technical standards alone do not determine results. Coordination, deliberation, and administrative capacity play a central role in shaping appraisal decisions. By linking upstream preparation with downstream performance, the framework provides a structured explanation of how appraisal can reduce the implementation gap identified in the literature.

This conceptualization extends existing Public Investment Management approaches by emphasizing the role of institutional processes rather than formal compliance alone. It provides the analytical basis for the empirical analysis that follows and guides the process tracing of the DPP lifecycle and Project Evaluation Committee deliberations, as shown in **Figure 3** below.

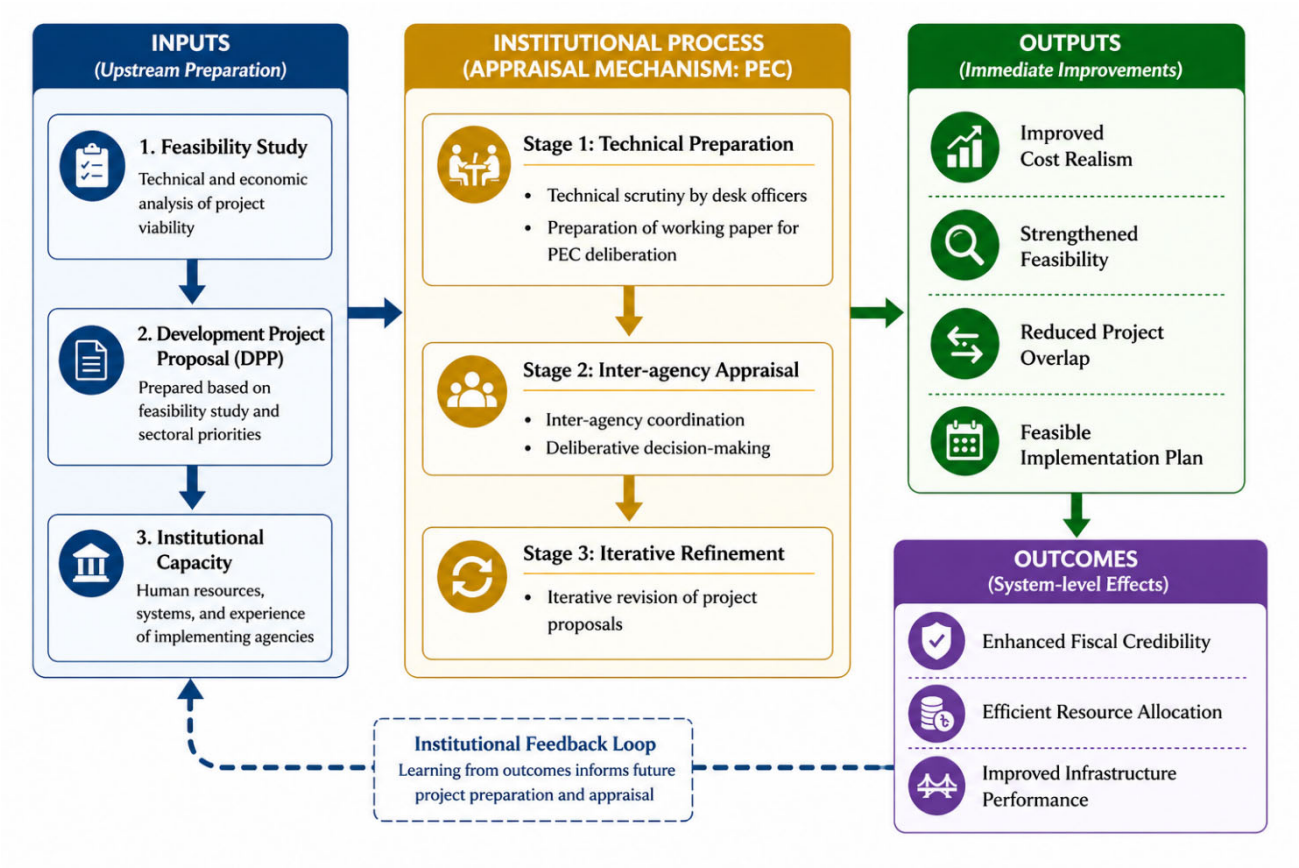

Figure 3. Conceptual Framework of Project Appraisal as a Governance Mechanism. Source: Author's conceptualization based on Public Investment Management literature and institutional practice.

5. Research design and methodological strategy

Building on the research gap identified in Section 2.5, this study employs a qualitative institutional analysis to examine how development project appraisal operates within Bangladesh's public investment management system. The research adopts a process-based approach that moves beyond prescriptive frameworks to examine how appraisal mechanisms function under institutional constraints. The study focuses on the procedural practices, institutional roles, and decision-making dynamics that shape appraisal processes in practice. Rather than evaluating individual project outcomes through quantitative performance measures, it highlights how these institutional factors drive appraisal. This methodological approach is consistent with scholarship in public administration and public investment management. Such work emphasizes the importance of institutional context in explaining policy implementation and governance outcomes.

5.1. Analytical approach

The study employs a process-tracing approach, examining the lifecycle of development project appraisal from proposal preparation to preliminary approval. The analysis concentrates on the Development Project Proposal (DPP) system and the role of the Project Evaluation Committee (PEC) as core institutional mechanisms for preliminary appraisal. The study seeks to identify recurring patterns, challenges, and

institutional responses by tracing how DPPs are reviewed, revised, and deliberated within the Planning Commission.

This approach enables an in-depth study of appraisal practices under real-world constraints for instance budget cycles, coordination demands, and capacity limits. It also facilitates analysis of appraisal as a problem-solving and corrective process rather than a purely compliance-driven procedure.

5.2. Data sources and dataset composition

The analysis is grounded in a triangulated dataset that combines formal regulatory frameworks with empirical process-tracking. The data consists of three primary components:

Primary Institutional Dataset (Qualitative): The study draws on a structured review of the appraisal lifecycle conducted within the Bangladesh Planning Commission. This includes a purposive review of over 50 Project Evaluation Committee (PEC) proceedings along with their corresponding Development Project Proposals (DPPs). These cases span diverse sectors such as infrastructure, energy, and social development, and were selected to capture recurring institutional patterns rather than sector-specific outcomes. Analytical coding, guided by a process-tracing approach, was applied to identify key themes such as optimistic costing, feasibility gaps, and coordination failures. Regulatory and Procedural Frameworks: A comprehensive audit was conducted of the formal "rules of the game." This includes the Guidelines for Formulation, Processing, Approval, and Revision of Development Projects, the Sector Appraisal Format (SAF), and the Ministry Assessment Format (MAF). These documents serve as the "normative baseline" against which actual institutional behavior was compared.

Comparative Global Metadata: Secondary data from the World Bank (2021, 2025) and the International Monetary Fund's PIMA frameworks were used to validate the Bangladesh case against international Public Investment Management (PIM) standards.

5.3. Methodological rigor and analytical scope

The study employs Expert Participant Observation to build a rigorous argument. This method is widely recognized in public administration research for its ability to uncover "informal institutions" that formal documents often exclude. The researcher identifies the "Institutional Feedback Loop" where technical appraisal meets fiscal reality. The insight emerges from analyzing the deliberations within the Planning Commission.

The scope is intentionally focused on the "Upstream Gatekeeping" phase. While the study does not use a quantitative spreadsheet of project outcomes, the "data" is the collective body of procedural decisions observed during the appraisal of national-level projects. This approach enables a context-rich examination for the PEC's corrective role, moving beyond a simple checklist to explain the logic of institutional intervention. Practitioner insights are incorporated not as mere anecdotes but as empirical evidence of recurring systemic challenges within the governance framework.

5.4. Strengths and limitations

A key strength of this methodological approach is its ability to provide context-rich insights into how appraisal systems function in practice. The study offers an applied perspective that complements existing normative and outcome-focused literature on public investment management.

However, the study has limitations. As a qualitative institutional analysis, it does not quantify the impact of appraisal practices on project performance or economic returns. The findings are based on purposive observation of appraisal processes and selected Project Evaluation Committee proceedings, which may limit generalizability. In addition, reliance on practitioner-based insights may introduce interpretive bias. Accordingly, the findings should be interpreted as analytically illustrative rather than statistically generalizable. Future research may incorporate quantitative or comparative approaches to extend these insights.

5.5. Ethical considerations

The study does not involve human participants, primary data collection, or confidential information. It is based on professional experience, publicly available guidelines, and institutional processes. Accordingly, formal ethics approval was not required.

6. Development project proposal (DPP) lifecycle in practice

The appraisal process begins with the preparation of a Development Project Proposal (DPP) by the implementing agency. The DPP outlines the project rationale, objectives, scope, cost estimates, implementation schedule, procurement plan, and expected outputs and outcomes.

The DPP is reviewed by the concerned Ministry or Division through Project Scrutiny Committee (PSC) before submitting it to the Planning Commission. This stage involves administrative and sectoral screening to ensure alignment with policy priorities and budget constraints. In practice, multiple revisions are often required at this stage as agencies refine costing, phasing, and implementation arrangements. Once the DPP is submitted to the Planning Commission, it enters formal appraisal within the relevant Sector Division. The appraisal and approval process for DPPS is shown below in **Figure 4**.

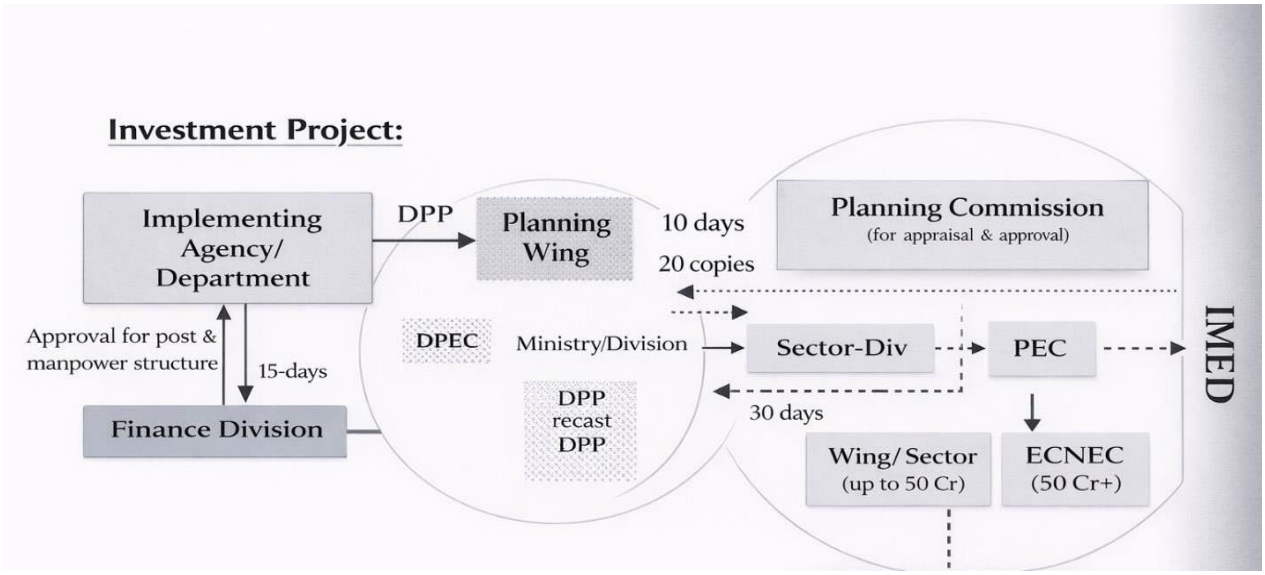

Figure 4. Development Project Proposal (DPP) Appraisal and Approval Process in Bangladesh. Source: Adapted from Economic Relations Division (ERD).

Appraisal mainly focuses on compliance with national plans, consistency with ADP priorities, and technical, financial, and institutional soundness. Projects may undergo several rounds of clarification before being placed before the Project Evaluation Committee. **Table 2** below shows the key appraisal instruments and their practical interaction in DPP review:

Table 2. Key Appraisal Instruments and Their Practical Interaction in DPP Review.

Stage	Responsible Entity	Key Instruments/Notes
DPP Preparation	Implementing Agency	Handbook for DPP Preparation, Feasibility Study Formats
Ministry Scrutiny	Line Ministry	Project Scrutiny Committee (PSC), Ministry Assessment Format (MAF)
Comprehensive Appraisal	Sector Division, Planning Commission	Sector Appraisal Format (SAF), Green Book, Public Investment Management (PIM) Guideline
Inter-Agency Review	Project Evaluation Committee (PEC)	Deliberation guided by Green Book rules
Approval	Minister for Planning / ECNEC	Tk. ≤ 50 crore: Minister Tk. > 50 crore: ECNEC
Revisions & Corrections	Planning Commission (with ERD concurrence and IMED opinion as applicable)	Formal revision procedures under the Green Book
Integration into ADP	Planning Commission	Final inclusion in ADP

Source: Author's synthesis based on Planning Commission guidelines and institutional practice.

The appraisal instruments operate in a complementary manner rather than in isolation. The Ministry Assessment Format (MAF) provides the initial screening framework at the line ministry level, ensuring that proposals meet basic administrative

and sectoral requirements. The Sector Appraisal Format (SAF) then deepens the analysis within the Planning Commission, focusing on technical, financial, and policy coherence. Finally, the Green Book serves as the overarching reference, harmonizing both formats with national planning rules and investment guidelines. In practice, this layered interaction creates a sequential filter. Proposals move from MAF standardization to SAF scrutiny and finally to Green Book alignment, ensuring coherence with public investment management principles.

DPP revision and re-appraisal

Appraisal does not end with initial approval. DPPs are frequently revised during project execution to accommodate changes such as time extensions, cost escalations, inclusion or exclusion of components, or incorporation of prior approvals. The Planning Commission is not only responsible for processing these revisional appraisals but also acts as the sole authority for approving revisions.

However, foreign-funded projects require concurrence from the Economic Relations Division (ERD) to ensure consistency with external financing arrangements. The Implementation Monitoring and Evaluation Division (IMED) may also provide opinions during the revisional process. Although this is a routine practice rather than a mandatory requirement. Additional queries may be raised by the Planning Commission to safeguard fiscal credibility and institutional feasibility.

Revisional appraisal thus functions as a corrective mechanism, enabling projects to adapt to implementation realities while maintaining accountability and alignment with national priorities. These patterns indicate that appraisal functions as an iterative governance process rather than a linear administrative procedure.

7. Role of the project evaluation committee (PEC)

The Project Evaluation Committee (PEC) constitutes the core mechanism for preliminary appraisal of development projects. PEC typically comprises representatives from the Planning Commission, concerned ministries, the Finance Division, IMED, and other relevant agencies. This composition enables inter- agency examination from multiple perspectives.

After formally receiving a DPP, the Desk Officer of the relevant Sector Division prepares a Working Paper based on prescribed appraisal formats and supporting documents. Along with the completed Sector Appraisal Framework (SAF) this paper is placed before the PEC for deliberation.

The appraisal framework applied through the Working Paper covers several dimensions. These include project readiness, logical framework coherence, cost-benefit considerations, alignment with sector planning and budgeting, manpower requirements, cost realism, and assessment results conducted at the ministerial level.

PEC deliberations examine project objectives, scope, cost estimates, timelines, feasibility quality, overlap with existing projects, and institutional capacity of implementing agencies. PEC operates as a problem-solving platform rather than functioning as a purely approval-oriented body. It identifies weaknesses, highlights risks, and provides guidance for improvement. Consequently, many projects require revision and resubmission following PEC meetings, reflecting the iterative nature of

appraisal. **Table 3** below shows the appraisal dimensions and the corrective role of the Project Evaluation Committee:

Table 3. Appraisal Dimensions and the Corrective Role of PEC.

Appraisal Dimension	Common Issues at DPP Submission Stage	Role of PEC Deliberations	Resulting Improvement
Cost estimation	Optimistic costing, outdated rates, weak contingencies	Scrutiny of unit costs, benchmarking with similar projects, phasing adjustments	Improved cost realism and fiscal credibility
Feasibility analysis	Generic or compliance-driven feasibility studies	Requests for sector- specific justification and methodological clarification	Strengthened analytical foundation for decision-making
Project scope and overlap	Duplication with ongoing or approved projects	Clarification of scope, Differentiation from parallel initiatives	Reduced overlap and improved resource allocation
Institutional capacity	Weak manpower planning and implementation readiness	Assessment of agency capacity, sequencing and staffing review	More realistic implementation arrangements
Procurement planning	Unrealistic timelines and packaging	Alignment with procurement rules and market conditions	Feasible procurement strategy
Implementation scheduling	Over-ambitious timelines driven by ADP cycles	Adjustment of milestones and phasing	Reduced implementation risk

Source: Author's analysis based on DPP appraisal practice within the Planning Commission of Bangladesh.

The following case illustrates how PEC deliberations can proactively correct weaknesses in project proposals.

Case illustration: PEC correcting a flawed proposal

Modernization and capacity enhancement of BREB networks (khulna division) project

During its first revisional meeting on 26 November 2025, the project authority focused mainly on descoping items and adjusting costs. However, deliberations revealed that 35 percent of physical work remained unfinished, making completion within the remaining six months of the five-year project duration unrealistic.

After the cross-cutting discussion, the PEC decided to extend the timeline by 1.5 years. Interestingly, the implementing agency had hesitated to request such an extension, fearing it might be perceived as excessive. The PEC's proactive decision corrected the flawed revision proposal and relieved the project authority of procedural burdens, ensuring a more feasible path to completion.

This example demonstrates how PEC deliberations function not only as a compliance mechanism but also as a corrective forum that enhances feasibility and institutional responsiveness.

8. Common appraisal challenges identified

Several recurring challenges continue to emerge during appraisal in Bangladesh, despite detailed guidelines and standardized formats. These reflect systemic incentives such as optimism bias, fragmented mandates, and limited technical capacity that are common across developing countries.

8.1. Frequency of challenges

Figure 5 presents the relative frequency of appraisal challenges based on the author's institutional experience. The visualization highlights several recurring issues. Cost realism, feasibility study quality, and institutional capacity constraints are among the most frequently encountered. Governance, environmental safeguards, and benchmarking gaps appear less often but remain significant.

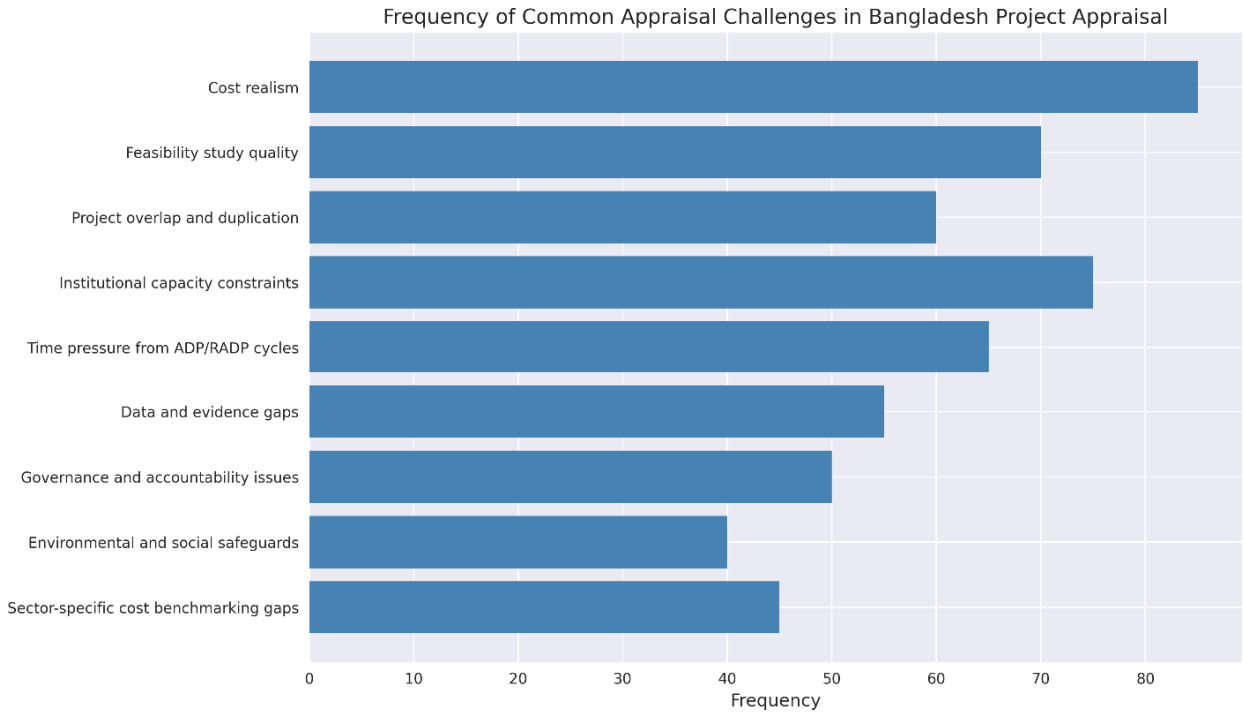

Figure 5. Recurring Challenges Identified During Development Project Proposal (DPP) Appraisal. Source: Author's synthesis based on institutional appraisal experience and Project Evaluation Committee deliberations.

8.2. Causes and implications of challenges

Table 4 summarizes the underlying causes and implications of each challenge to complement the frequency data. This dual presentation underscores both the quantitative prevalence and the qualitative institutional dynamics shaping appraisal outcomes.

Table 4. Underlying Causes and Implications of Recurring Appraisal Challenges.

Challenges	Cause/Example	Implication for Appraisal
Cost realism	Optimistic estimates, outdated rates, weak contingencies	Requires repeated adjustment; undermines fiscal credibility
Feasibility study quality	Generic or compliance-driven analyses; weak methodological rigor	Limits the usefulness for decision-making; prompts revision requests
Project overlap and duplication	Multiple agencies proposing similar initiatives	Resource inefficiency; need for scope clarification
Institutional capacity constraints	Weak manpower planning, procurement capacity, sequencing	Reduces project readiness; delays implementation

Time pressure from ADP/RADP cycles	Compressed appraisal timelines during budget deadlines	Limits the depth of review; shifts focus to corrective adjustments
Data and evidence gaps	Inadequate baseline data, demand forecasts, socio-economic analysis	Weakens the robustness of appraisal; increases risk of misallocation
Governance and accountability issues	Political pressures, optimism bias, strategic misrepresentation	Premature approval of under-prepared projects; reduced transparency
Environmental and social safeguards	Underemphasis on EIA and social inclusion	Risks, sustainability, and compliance with global standards
Sector-specific benchmarking gaps	Lack of standardized rate schedules across sectors; reliance on unit prices from other projects	Difficult to verify estimates; PEC debates over credibility; delays appraisal

Source: Author's synthesis based on institutional appraisal experience and Project Evaluation Committee deliberations.

8.3. Narrative integration

The combination of quantitative and qualitative evidence highlights the multidimensional nature of appraisal challenges. While cost realism and feasibility studies dominate in frequency, governance, data quality, and benchmarking gaps reveal deeper institutional weaknesses. Together, these challenges underscore the need for reforms that strengthen upstream preparation, improve technical capacity, and institutionalize transparent appraisal practices.

9. Discussion

This section interprets the findings of the case study by linking Bangladesh's development project appraisal practices with broader public investment management principles. The iterative nature of appraisal and revision reflects an effort to balance procedural rigor with implementation feasibility in a constrained administrative environment. This balance is particularly evident in the functioning of the Project Evaluation Committee (PEC), where multiple rounds of clarification and revision are used to improve project design before approval. Appraisal does not operate merely as a procedural checkpoint. It functions as a quality-enhancing practice that guides investment decisions before approval and enriches debates in public investment management and administration.

9.1. Project appraisal as a safeguard

The appraisal system in Bangladesh functions as a safeguard against premature or poorly prepared projects by requiring structured documentation and inter-agency review. In this sense, it operates as a gatekeeping mechanism within the Public Investment Management system.

However, this safeguard role is not absolute. Projects sometimes pass appraisal with weak feasibility studies or underestimated costs, creating challenges during implementation. The persistence of cost optimism reflects institutional incentives within project preparation, where implementing agencies face pressure to secure approval. This supports Flyvbjerg's argument on strategic misrepresentation, while also indicating that appraisal processes partially mitigate such bias through scrutiny and revision.

These dynamics highlight the dual role of appraisal as both a gatekeeping and a corrective mechanism. Its effectiveness depends not only on formal guidelines but also on the quality of institutional practice, including the rigor of scrutiny and responsiveness to appraisal feedback.

9.2. Inter-agency coordination and collective decision-making

A key contribution of this study is its emphasis on the role of inter-agency coordination in strengthening appraisal quality. The PEC brings together representatives from multiple institutions, allowing project proposals to be examined from diverse perspectives. This structure helps address information asymmetries and reduces the likelihood that critical issues remain unexamined.

The literature on infrastructure governance highlights coordination failures as a major source of inefficiency in public investment. Fragmented responsibilities and siloed decision-making often result in overlapping projects, inconsistent standards, and weak accountability. The PEC mechanism partially mitigates these risks by institutionalizing dialogue among key stakeholders at the appraisal stage. This demonstrates that the PEC operates as a corrective governance mechanism, where iterative deliberation compensates for upstream institutional weaknesses. This aligns with existing PIM literature on gatekeeping institutions but extends it by showing that correction occurs through deliberative processes rather than formal compliance alone.

However, the effectiveness of such coordination depends on the quality of deliberation and the capacity of participating institutions. The findings suggest that while PEC provides an important platform, its outcomes depend on upstream preparation quality and how agencies respond to feedback.

9.3. Persistent challenges and practitioner anecdotes

Recurring challenges persist despite the presence of formal guidelines. Cost realism, weak feasibility studies, and poor estimation of land acquisition values are particularly acute. Practitioner experience illustrates these problems vividly:

- Feasibility study gaps: The 10 MW Solar Power Plant in Bhashanchar Island was approved based on an in-house feasibility study that lacked standard rigor. During implementation, the project suffered from multiple problems, underscoring how weak feasibility analysis can undermine project viability

even after formal approval.

- Land acquisition underestimation: The Construction of the Gas Pipeline from Dhunua to Mymensingh Combined Cycle Power Plant later required an additional Tk. 197 crore due to improper estimation of acquisition costs. This case demonstrates how inadequate appraisal of land values can lead to significant fiscal overruns.
- Right of way adjustments: The Power System Upgrade and Expansion (Chattogram Area) Project faced delays and cost escalation because clearance was needed from the Civil Aviation Authority of Bangladesh (CAAB) to set up 24 towers near Chittagong airport. Ultimately, the project authority had to change the right of way and descoped components, reflecting how regulatory clearances can reshape project design mid-stream.

These cases show that appraisal challenges are not isolated technical issues but reflect deeper institutional constraints, including incentive structures, capacity limitations, and coordination failures. While appraisal mechanisms provide opportunities for correction, their effectiveness is shaped by the quality of upstream preparation and the ability of institutions to anticipate and address implementation risks. These patterns reinforce the conceptualization of appraisal as a governance mechanism, where institutional processes operate as corrective responses to upstream weaknesses.

9.4. Time and capacity constraints

Appraisal timelines are often compressed by the Annual Development Programme (ADP) and revised ADP cycles. This creates pressure to approve projects quickly, often reducing the scope for thorough scrutiny. The problem is compounded by limited technical expertise within implementing agencies, leading to submissions that lack robust data or sector-specific benchmarks. The absence of standardized rate schedules in several sectors further complicates verification, forcing appraisal units to rely on ad hoc comparisons. These constraints shift appraisal from preventive scrutiny toward reactive correction, reinforcing its role as a governance mechanism under institutional pressure.

- Digitalization of appraisal processes offers new opportunities. Electronic platforms for DPP submission, appraisal tracking, and PEC deliberations could reduce duplication, enhance transparency, and enable real-time monitoring. The Planning Commission has already piloted the Project Processing, Appraisal and Management System (PPS) under the Strengthening Digital Processing of Projects (SDPP) initiative. Comparative experiences from Vietnam highlight the benefits of fully institutionalized national databases for public investment management, suggesting that scaling up PPS could significantly strengthen efficiency and accountability in Bangladesh.

These constraints, combined with partial digitalization efforts such as the PPS pilot, point to the inadequacy of incremental fixes. What is required instead is comprehensive reform that strengthens the appraisal practices systemically.

9.5. Reform implications

Reforms must address both technical and institutional dimensions. Strengthening capacity through training, establishing sector-specific rate schedules, and introducing digital platforms for DPP submission and appraisal tracking can enhance transparency and efficiency. Integrating appraisal outcomes with monitoring and evaluation systems would create feedback loops, allowing lessons from completed projects to inform future appraisals. Safeguards against optimism bias and political pressures are also necessary to ensure technical evidence is not overridden by short-term priorities. It is urgent to address benchmarking gaps across sectors because without standardized cost references, credibility suffers and PEC deliberations face more debate.

9.6. Contribution to the literature

This study contributes to the literature on public investment management by documenting how appraisal operates as both a safeguard and a problem-solving platform in a resource-constrained setting. It highlights the interplay of technical, institutional, and political factors, showing that appraisal is not a purely technical exercise but a negotiation among stakeholders. Integrating practitioner anecdotes gives the analysis empirical depth and shows how systemic challenges emerge in real projects.

9.7. Comparative insights from south and southeast Asia

Experiences from neighboring countries illustrate diverse approaches to strengthening project appraisal systems under fiscal and institutional constraints. These cases provide useful lessons for Bangladesh, both in terms of institutional design and reform priorities.

India has institutionalized appraisal through the Public Investment Board (PIB) and the appraisal functions of NITI Aayog, which review large projects before budget inclusion. Mandatory scrutiny of revised cost estimates and sector-specific PPP appraisal guidelines highlight India's emphasis on cost realism and fiscal credibility. The Indian system demonstrates how systematic review of revised estimates can prevent cost overruns and how sector-specific frameworks can improve consistency across diverse infrastructure domains.

Vietnam has advanced reforms through its Public Investment Law and supporting regulations. The Ministry of Planning and Investment operates a National Information System and Database on Public Investment, enabling digital appraisal, monitoring, and evaluation. These reforms demonstrate how digitalization and transparency can reduce duplication, improve coordination, and strengthen accountability. Vietnam's experience shows that technology-enabled platforms can transform appraisal from a paper-based compliance exercise into a dynamic, evidence-driven process.

Nepal has introduced the National Project Bank (NPB) under the National Planning Commission, guided by the NPB Guidelines (2020). Projects must undergo standardized appraisal and prioritization before budget inclusion, ensuring alignment with the country's 15th periodic plan. This prioritization mechanism underscores the importance of linking appraisal directly to long-term national strategies, reducing overlap and strengthening coherence. Nepal's model highlights how strategic

prioritization can ensure that scarce resources are directed toward projects with the highest developmental impact.

Taken together, these cases highlight three complementary lessons for Bangladesh:

- India's focus on cost realism suggests the need for a systematic review of revised estimates and the development of sector-specific appraisal frameworks to strengthen fiscal credibility.
- Vietnam's digital reforms point to the potential of technology-enabled appraisal platforms to enhance transparency, reduce duplication, and improve efficiency.
- Nepal's prioritization model illustrates the value of aligning appraisal outcomes with national development plans to reduce overlap and strengthen coherence.

These comparative insights reinforce the argument that although Bangladesh's appraisal system is structured, it would benefit from reforms in cost credibility, digitalization, and strategic prioritization. They also show that reform is not a one-size-fits-all process. Each country has tailored its appraisal system to its institutional context, fiscal constraints, and development priorities. For Bangladesh, a hybrid approach that draws on India's cost realism, Vietnam's digital innovations, and Nepal's prioritization framework could significantly strengthen the credibility and effectiveness of project appraisal.

10. Lessons and policy implications

The findings suggest that strengthening upstream preparation, institutional capacity, and digital appraisal systems can significantly improve public investment efficiency in developing countries. The analysis of Bangladesh's project appraisal practices offers some vital lessons for strengthening Public Investment Management (PIM) in developing economies. The following policy implications are proposed to bridge the identified implementation gap:

10.1. Strengthening upstream preparation and technical rigor

Early and rigorous project preparation is essential for reducing revision cycles. Strengthening upstream feasibility analysis, logical frameworks, and cost realism can significantly improve project readiness. This requires the consistent application of standardized instruments, such as the SAF and MAF, alongside a long-term investment in institutional capacity. Dedicated appraisal units and targeted training at both central and sub-national levels are necessary to ensure that technical evidence is not overridden by optimism bias or strategic misrepresentation.

10.2. Leveraging digitalization and real-time monitoring

The digitalization of appraisal processes through the Project Processing, Appraisal and Management System (PPS) under the SDPP initiative offers a transformative opportunity. Currently, the parallel use of hard-copy submissions limits the impact of this digital transition. Scaling up the PPS would reduce duplication, enhance transparency, and enable real-time monitoring. Drawing on Vietnam's experience with national public investment databases, Bangladesh can transition to an

evidence-based system where appraisal outcomes are digitally linked with downstream monitoring and evaluation (M&E) systems.

10.3. Enhancing strategic gatekeeping and regional learning

Structured inter-agency coordination through the Project Evaluation Committee (PEC) demonstrates how solution-oriented deliberations enhance institutional learning. To maximize this, appraisal timelines should be strategically aligned with budget cycles to allow for deeper scrutiny without undermining fiscal discipline. Furthermore, Bangladesh could benefit from structured peer exchange with neighboring countries like India and Vietnam to adopt global best practices in cost realism and project prioritization.

10.4. Aligning with global governance frameworks

Embedding these lessons into national reform pathways would align Bangladesh with OECD and World Bank best practices. By transitioning from subjective administrative checks to a more rigorous, data-driven governance model, Bangladesh can reinforce its role in sustainable infrastructure governance. Ultimately, such reforms will enhance fiscal credibility and position the country as a regional leader in institutional innovation within the field of public investment management.

11. Conclusion

This study demonstrates that infrastructure project appraisal in Bangladesh is a complex institutional process shaped by bureaucratic routines, interagency dynamics, and fiscal constraints. Through an examination of the DPP lifecycle and PEC deliberations, the research identifies recurring systemic weaknesses, including optimistic costing, inadequate feasibility studies, and overlapping project scopes. However, it also underscores the vital corrective role of the PEC in refining project design and safeguarding national fiscal credibility. Several governance lessons emerge from this analysis. Strengthening feasibility studies with methodological rigor, building appraisal capacity through specialized training, and embedding PEC deliberations as iterative feedback loops are essential reforms. Furthermore, better alignment of appraisal timelines with budget cycles and greater transparency in committee deliberations would enhance accountability, public trust, and fiscal discipline. Together, these reforms would significantly strengthen the national appraisal system and maximize the developmental impact of public investment.

This paper contributes to project management scholarship by framing appraisal as a form of institutional innovation. The lessons identified are relevant to other developing economies and can inform comparative research in developed contexts such as Australia and China. In doing so, this study enriches the global discourse on project appraisal and infrastructure governance, providing a practitioner-led foundation for future policy reforms.

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