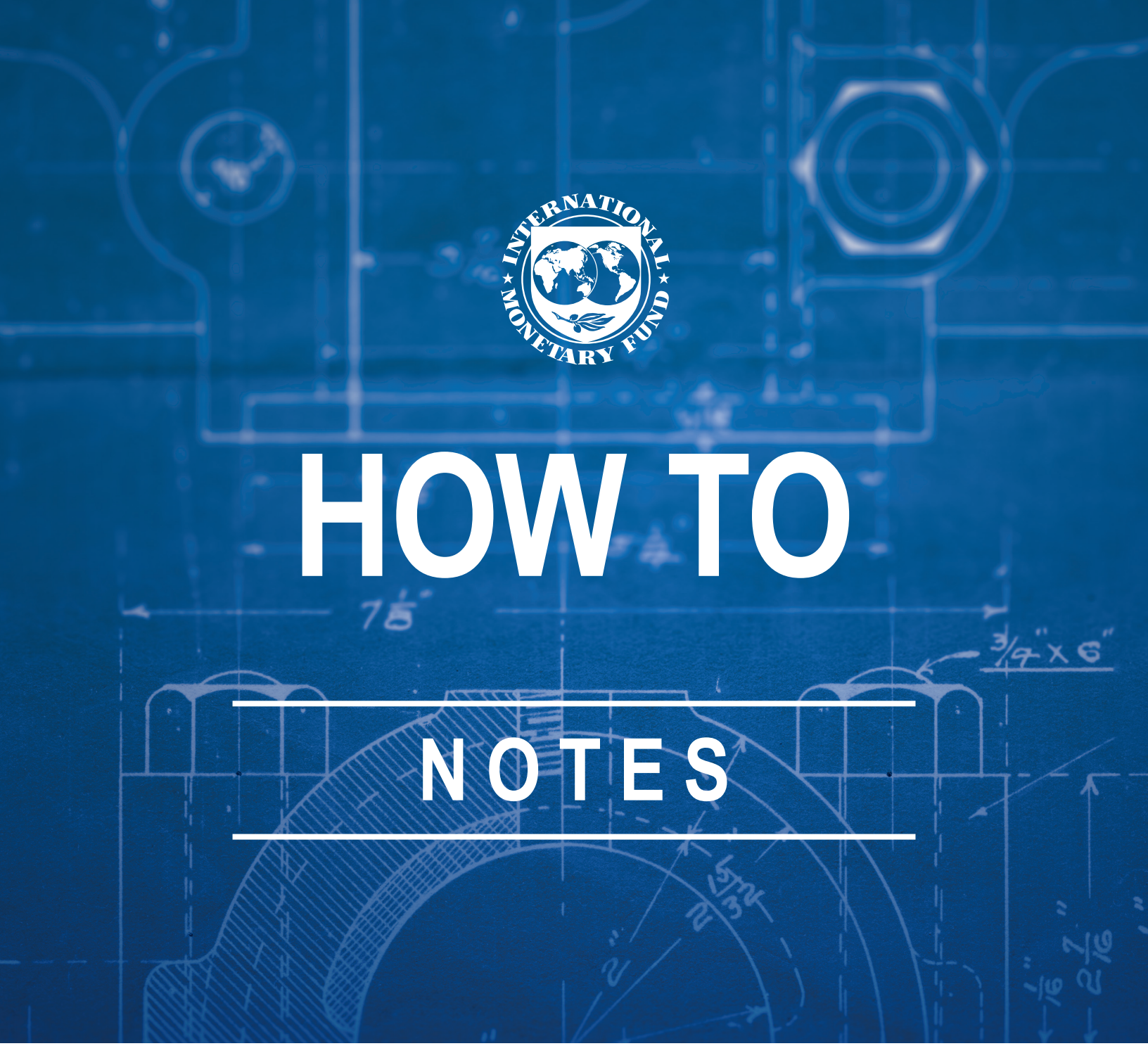

HOW TO

NOTES

How to Improve Public Investment Management in Low-Income Countries

Khaled Eltokhy, Nicoletta Feruglio, Kezhou Miao, Arturo Navarro, and Eivind Tandberg

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How to Improve Public Investment Management in Low-Income Countries

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How to Improve Public Investment Management in Low-Income Countries

Prepared by Khaled Eltokhy, Nicoletta Feruglio, Kezhou Miao, Arturo Navarro, and Eivind Tandberg

January 2025

This How to Note discusses how low-income developing countries can strengthen the effectiveness and efficiency of their public investment. The note draws on Public Investment Management Assessments and focuses on eight institutions that are likely to be key reform priorities in many low-income developing countries: project appraisal, multiyear budgeting, maintenance, project selection, procurement, availability of funding, project management, and monitoring of public assets. For each of these, the note discusses basic practices, which should be realistic initial reform objectives for low-capacity countries, and medium practices that may be relevant objectives for medium-term reforms. The note also discusses how to overcome reform implementation challenges and consolidate the reforms and provides examples of action plans to implement the different reforms.

Introduction

Public investment is particularly important for low-income developing countries (LIDCs). These countries need to improve and expand their infrastructure to provide the population with basic public services, climate-proof their infrastructure, and achieve the UN Sustainable Development Goals. The potential benefits of infrastructure investment are high, in terms of higher economic growth and stronger public finances as well as improved living standards. Efficient and transparent public investment management (PIM) also has positive effects on the overall quality of governance, with benefits for other parts of the public sector.

To realize the expected benefits of public investment, PIM must be efficient. Efficient public investment has significant positive effects, whereas inefficient investment has lower or negative effects, for instance, when resources are wasted on “white elephants”—high-profile projects with high costs and questionable benefits, which crowd out more productive investments. In 2020, average efficiency loss in public investment in LIDCs was estimated to be as high as 54 percent (Schwartz and others 2020). This means that, on average, more than half the resources being channeled to public investment in LIDCs were wasted. Efficient PIM helps reduce this wastage. In addition, well-designed projects can help countries access financing with better conditions, including grants and concessional loans from international financial institutions.

Reforms to improve PIM capacity must be well designed and effectively implemented. Reform efforts are not always successful and often take longer than originally planned, even when these aim to introduce established good practices that are used in other countries. Reform success is often hampered by failure to reflect country circumstances and existing capacities in reform design, unrealistic targets and timetables, and inadequate support and buy-in from top leadership and other key stakeholders, both domestic and international (Allen 1996).

This note discusses practical steps that LIDCs can take to improve their PIM. It builds on the experiences from the IMF Public Investment Management Assessment (PIMA) diagnostic and on a separate IMF working paper

that identified key bottlenecks for efficient PIM in LIDCs (Eltokhy and others 2024). This note discusses the effects of the identified weaknesses in PIM and explores how they can be addressed. The note identifies basic practices, which should be realistic initial reform objectives for low-capacity countries, and medium practices that may be relevant objectives for medium-term reforms. Advanced practices are not discussed in this note—these are not realistic initial targets for LIDCs with low capacities.

The note is organized into three sections after this introduction. The section gives a brief overview of the current situation regarding public investment and PIM in LIDCs. The second section discusses how the main gaps in current PIM systems in LIDCs can be addressed through a set of key functional reform priorities. It outlines how these reforms can be designed in countries with weak and medium management capacities and indicates possible reform paths. Finally, the last section discusses how to overcome reform implementation challenges and consolidate the reforms. The Annex 1 provides examples of action plans to implement the reforms discussed in the note that build on Fiscal Affairs Department's experience in advising countries in the area.

Public Investment and Public Investment Management in Low-Income Developing Countries

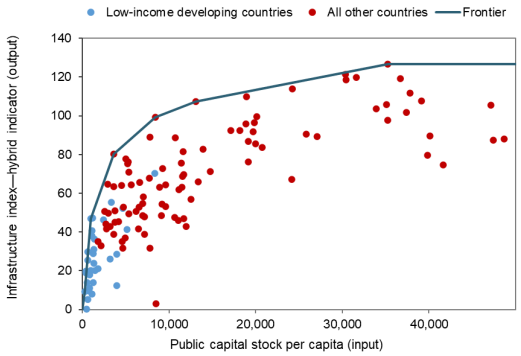
The ability of a country to transform the same amount of resources into a larger volume or quality of infrastructure assets is a measure of public investment efficiency. A widely used methodology for measuring efficiency is through benchmarking: comparing the outputs achieved by a country, specific sector, or industry given a specific level of spending against the best performers. Recent IMF working papers have used this methodology to estimate investment efficiency at the country level (Baum, Mogues, and Verdier 2020) and for some specific infrastructure sectors (Kapsoli, Mogues, Verdier 2023). Their analysis also assesses the relationship between infrastructure governance and public investment efficiency and confirms that there is a significant gain in infrastructure output from strengthening infrastructure governance. In particular, for LIDC and emerging markets, the average efficiency gap is 53 percent and 34 percent, respectively, and the gap for the former can be as high as 96 percent. The authors conclude that addressing the factors behind this inefficiency, for example, through better infrastructure governance, could increase infrastructure output by 65 percent in LIDC.

The efficiency of public investment varies dramatically between different countries and country groups. Figure 1 illustrates efficiency scores for a wide range of countries.[1] The efficiency frontier is defined by the countries with the highest infrastructure output for any given level of input (that is, public capital stock per capita). A country that is on the frontier is assigned a score of 1, whereas less efficient countries will receive a score of less than 1. The distance from this frontier to each country indicates the efficiency gap, the potential infrastructure output that is lost because of the inefficiencies relative to other countries with similar characteristics. Figure 1 is an example of the efficiency frontier based on single-input (public capital stock per capita) and single-output (composite infrastructure outcome) analysis. It illustrates that many LIDCs have very significant efficiency gaps, with the mean being close to 40 percent but reaching more than 60 percent in a few cases.

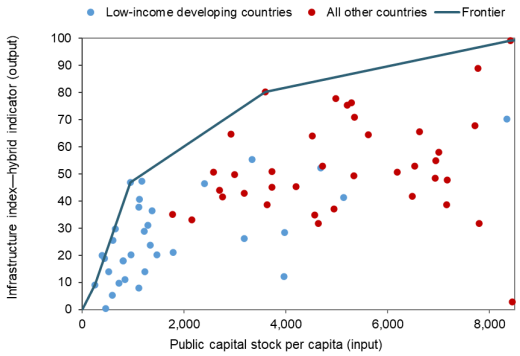
[1] Efficiency is measured as the ability to improve the quality and volume of infrastructure assets for a given level of input as in Baum, Mogues, and Verdier (2020).

Figure 1. Public Investment Efficiency Frontier—Hybrid Indicators

1. All Countries



2. Public Capital Stock per Capita < 8,500



Source: IMF Template of Investment and Efficiency (2022).

Public Investment Management Priorities in Low-Income Developing Countries

The PIMA framework provides a basis for defining reform programs for public investment, and it has now been applied in 82 countries, including 37 LIDCs.[2] Box 1 summarizes the key institutions covered by the PIMA framework. Figure 2 shows the average PIMA scores for different country groups and indicates that LIDCs have consistent weaknesses in PIM compared with advanced economies (AEs) and many emerging market economies (EMEs). The average PIMA score for AEs is significantly higher than for LIDCs. The average score for EMEs is similar to those of LIDCs, but many EMEs have significantly higher scores.

[2] The total number of PIMA reports at the time of drafting is 89. This includes two subnational government PIMAs and five PIMA updates.

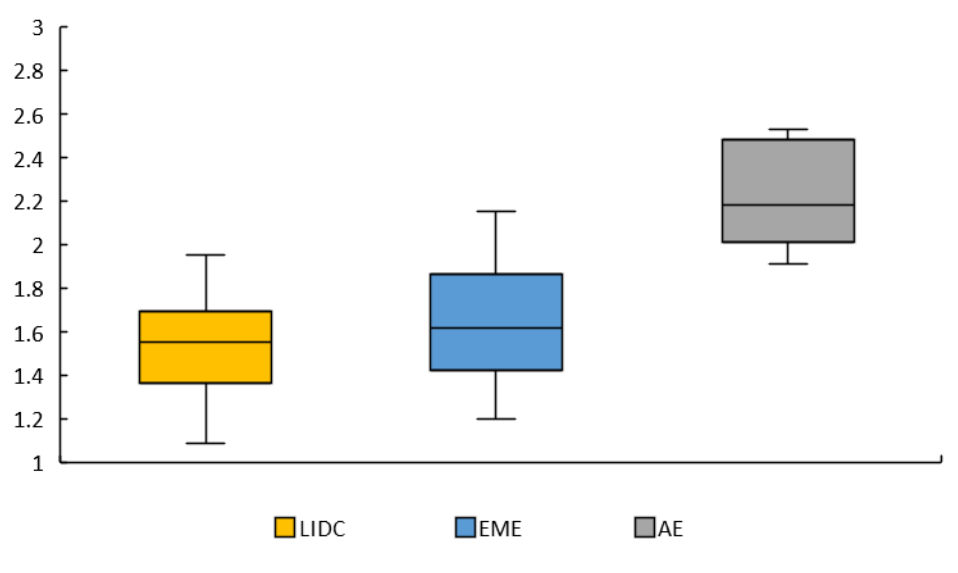
Box 1. Public Investment Management Assessment Framework

The IMF's Public Investment Management Assessment framework (Box Figure 1.1) assesses the institutional design and effectiveness of public investment in different countries. It includes estimates of country-specific efficiency gaps and analysis of the design and effectiveness of public investment management institutions, covering the planning, allocation, and implementation stages of public investments. The assessment of institutional design focuses on the legal and institutional framework for public investment (de jure), whereas the effectiveness assessment looks at how this is applied in practice (de facto).

Box Figure 1.1. Public Investment Management Assessment Framework

Source: IMF (2018).

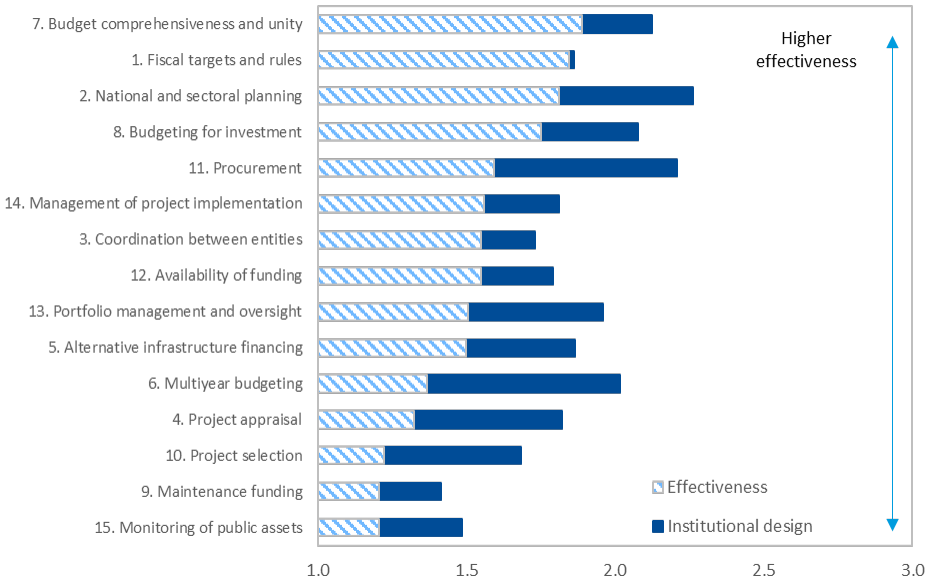
Figure 2. Average Public Investment Management Assessment Scores by Income Group (Effectiveness)



Sources: IMF PIMA database (2023; 37 LIDCs, 39 EMEs, and 6 AEs). PIMA scores low, medium, and high are equivalent to 1, 2, and 3 in the figure.
Note: The graphs show various efficiency scores for each income group: top and bottom of lines show maximum and minimum efficiency scores for a country in the sample; top and bottom of the box show the third and first quartile scores; the line within the box shows the median score for the income group. AE = advanced economy; EME = emerging market economy; LIDC = low-income developing country.

Completed PIMAs indicate that five PIMA institutions are particularly weak in most LIDCs. These are *monitoring of* public *assets, maintenance funding, project selection, project appraisal, and multiyear budgeting*. These five institutions have the lowest effectiveness scores, and four of them also have the lowest scores on institutional design among the LIDC PIMAs carried out so far (Figure 3).

Figure 3. Public Investment Management Assessment Scores by Institution in 37 Low-Income Developing Countries



Source: IMF PIMA database.

Note: Effectiveness and institutional design scores can vary between 1 and 3. The graph overlaps both dimensions for comparison purpose. The right end of each section of the bar—with pattern and solid—shows the average score for effectiveness and institutional design, respectively. For example, the effectiveness and institutional design scores for institution 6, multiyear budgeting, are approximately 1.4 and 2, respectively.

Recent IMF analytical work discusses the link between infrastructure governance and public investment efficiency. A 2020 regression analysis using the results of 62 PIMAs concluded that there is a statistically significant link between the investment efficiency of a given country and the assessed strength of their PIM institutions (Baum, Mogues, and Verdier 2020). Similarly, a recent IMF working paper discusses which PIMA institutions have the most significant effect on overall public investment output and efficiency. This paper finds that *project appraisal, project management, procurement, availability of funding*, and *project selection* have the strongest correlation to public investment efficiency in the 37 LIDCs covered by PIMAs so far. The key findings are summarized in Box 2. *Maintenance, multiyear budgeting*, and *alternative infrastructure financing* also affect public investment efficiency, but the results are less conclusive. Given that the paper looks at a broader issue than consistency with PIMA effectiveness criteria, it is not surprising that there are some differences from the results reflected in Figure 3.

Box 2. Public Investment Management Bottlenecks in Low-Income Countries

This paper uses principal component analysis to identify bottlenecks to effective public investment management (PIM) in low-income developing countries (LIDCs). The paper describes the current state of affairs regarding public investment and PIM in LIDCs, drawing on the results of IMF Public Investment Management Assessments (PIMAs). Principal component analysis is used to analyze which public investment institutions are likely to be most important for investment efficiency estimates across the countries covered by PIMAs so far.

Drawing on alternative input data, the working paper identifies five PIMA institutions that are systematically highly correlated to estimates of public investment efficiency in LIDCs and are likely to be high priorities in many PIM reform processes: *project management, project appraisal, procurement, availability of funding*, and *project selection*. The working paper notes that the practical steps to strengthen PIM in LIDCs are elaborated in a separate How to Note.

Source: Eltokhy and others (2024).

The discussion in this note covers eight PIMA institutions that are least effective across LIDCs and have the most significant effect on public investment efficiency. These include the five institutions that are systematically weakest in LIDC PIMAs, as indicated in Figure 3, and the five (partly overlapping) institutions that were found to have most effect on PIM efficiency in the statistical analysis described in Box 2. The eight institutions are listed and described in the subsection Removing the bottlenecks – priority reform agenda. Although country reform programs must be tailored to the specificities of each country, it is likely that these institutions will be high priorities in most LIDCs. This does not mean that the other PIMA institutions are not important, particularly in the medium and longer term. These other institutions will become gradually more important because the initial reforms are implemented, and basic and intermediate capacities are developed.

Climate change is increasingly becoming a key aspect of PIM, but it is too early to draw strong, general conclusions regarding the efficiency and effectiveness of measures to ensure climate-sensitive public investment in LIDCs. The IMF launched the Climate PIMA (C-PIMA) in 2021, and more than 40 assessments have been conducted so far. The C-PIMA follows the same logic as the PIMA and comprises five pillars of PIM that are key for climate-smart infrastructure: planning, coordination across government, project appraisal and selection, budgeting and portfolio management, and risk management. Given the early stage of climate-sensitive investment in most countries, the C-PIMA focuses on the design of these institutions and does not provide effectiveness scores or estimates of efficiency gaps.[3]

Removing the Bottlenecks—Priority Reform Agenda

Improvements in the eight PIMA institutions identified in the previous section are likely to be high priorities in many PIM reform processes and particularly important in LIDCs. There are also important interrelations between different institutions.

- **Project appraisal** is fundamental for the whole PIM process. Robust appraisal is necessary to assess the strategic importance and the expected costs and benefits of an investment project, as well as its readiness for implementation. If this is not adequately analyzed and documented, decision makers will not be able to ensure that projects can achieve key strategic objectives and maximize net benefits, or to ascertain if there is the necessary basis for effective project implementation. The quality of the appraisal process has major implications for other PIM institutions, including selection and monitoring.
- **Multiyear budgeting** is essential for the credibility of project planning and the efficiency of project implementation. Major projects are generally multiyear. In the absence of a realistic and credible medium-term budget process, projects will be at risk of delays and interruptions because of funding shortages, and approved projects may be crowded out by other projects of less importance. Implementing agencies and contractors will be uncertain about when the project will be funded and will seek to limit their responsibility and

[3] An ongoing review of the C-PIMA will provide a basis for more comprehensive analysis of C-PIMA results in the future.

accountability for project implementation. Multiyear budgets should also be consistent with realistic fiscal policies and national investment strategies.

- **Maintenance** is essential to preserve the value and the performance of public investments, and spending on maintenance is often the most efficient use of funds on public assets (OECD 2021a). Still, maintenance is systematically underfunded in most LIDCs, significantly undermining public investment efficiency. Efficient maintenance is critically dependent on information about existing fixed assets.
- **Project selection** should ensure that the projects with the highest likelihood of achieving strategic objectives and the highest net benefits for society compared with costs are prioritized, that projects to be implemented are adequately prepared, and that they are consistent with expected available resources. This also requires a robust project appraisal process. In the absence of a systematic project selection process, the public investment portfolio will be suboptimal, and project implementation is likely to be delayed. The selection of projects should also be consistent with medium-term budgets and in-year funding availability.
- **Procurement** must be effective to ensure that the planned project objectives are realized at the lowest possible cost and to avoid corruption and other governance issues during the procurement process. To facilitate this, procurement should be open and competitive, and the process should be transparent. Attempts to circumvent procurement regulations, for instance, by limiting potential bidders, will generally lead to delays and to inferior proposals being selected. Unwarranted confidentiality requirements, for instance, failure to publish tender awards or contracts, may raise suspicions of corruption or collusion.
- **Availability of funding** during project implementation is a major bottleneck in many LIDCs. In-year fiscal resources may be severely constrained because of unrealistic revenue projections and unplanned expenditures, whereas a weak medium-term budgeting process might undermine future years funding. Weaknesses in cash forecasting and management may lead to cash rationing and arrears, undermining the credibility of funding for ongoing investment projects. Ineffective coordination with external funding and financing sources may exacerbate these challenges.
- **Project management** should ensure that projects are implemented in accordance with the budget, timetable, and technical specifications. This requires technical competence, well-defined implementation plans, good design, and clear accountability for successful implementation. It is essential that the project is properly prepared, that legitimate stakeholder interests have been addressed, and that necessary permits are secured prior to the start of construction. Otherwise, the likelihood of delays and cost escalation is very high.
- **Monitoring of public assets** is a fundamental prerequisite for effective planning of investments and management of the overall public capital stock, including maintenance. Without at least some rudimentary knowledge about the existence, location, condition, and value of major public assets, public investment becomes an ad-hoc incremental exercise, without any possibility for efficient, consolidated management. Although building a comprehensive asset register is a multiyear undertaking, some initial steps to identify the most important assets are feasible also in LIDCs.

Defining Public Investment Management Reform Agendas to Overcome Main Bottlenecks

In theory, countries could pursue several parallel PIM reforms at the same time, but in practice, this is neither advisable nor feasible, particularly in low-capacity countries. In many LIDCs, there will be identified weaknesses in several different PIM institutions, beyond the eight indicated in the previous sections. However, countries with limited capacity will not be able to address all these weaknesses at the same time. There is strong evidence that clearly defined and targeted reforms are more effective than broad, general reform programs. Clear objectives and realistic timetables are also critical (Bassanetti 2021). In the longer term, successive reform programs can incorporate all key aspects of PIM in a clearly sequenced plan, but in the short to medium term, clear prioritization is critical. A clear understanding of complementarities is also important; for instance, project appraisal mechanisms should also support improved project selection and medium-term budgeting.

Good institutional design is in most cases a necessary, but not sufficient, prerequisite for effective PIM. As shown in Figure 3, institutional design scores are systematically higher than effectiveness scores, although

there may be exceptions for specific institutions in some countries. Weak governance structures and lack of transparency can result in inefficiencies and corruption, affecting the quality and effectiveness of public investments. The absence of robust legal and regulatory frameworks can impede the development and execution of effective PIM practices. It will often be necessary to improve the institutional and governance framework before it is possible to strengthen practices and effectiveness. For instance, setting up a procurement process for PIM may not have the desired effect if the legal system is unable to effectively deal with nonadherence to the procurement process. It is also important to consider financial limitations and political factors when defining PIM reform priorities. The importance of an enabling framework for PIM reforms is discussed further in the concluding section of this How to Note.

Table 1 summarizes key advice on how LIDCs can improve PIM and enhance the efficiency of public investment. This advice builds on, synthesizes, and supplements relevant guidance in the PIMA framework. The table focuses on the eight PIM institutions that were found to be particularly weak and important in LIDCs (Eltokhy and others 2024). These will be essential components of PIM reform in many countries. However, there are important differences between countries, and reform programs must be carefully tailored to the specifics of each; for example, not all institutions mentioned in this How to Note will be critical for all LIDCs, whereas in other cases, other PIM institutions may need to be prioritized at an early stage of the reform process. For this reason, it is not possible to provide a general prioritization of PIM reforms that is applicable across all LIDCs. The table identifies basic practices, which should be realistic initial reform objectives for low-capacity countries, as well as medium practices that may be relevant objectives for medium-term reforms.

Table 1. Summary of Advice on Key Public Investment Management Assessment Institutions in Low-Income Developing Countries

	Basic Practice	Medium Practice
Project appraisal (large projects, simplified for smaller projects)	Describe project rationale, objectives, main project options, cost and revenue estimates, project benefits and effects (qualitative), main risks, basic implementation, procurement, and financing plans.	Include cost-effectiveness analysis; extend project option analysis; detail estimates of costs, revenues, benefits, and effects (quantitative); extend risk analysis; develop implementation and procurement plans.
Medium-term budgeting	Demonstrate clear political commitment to medium-term public investment plans and their funding over the coming years, through cabinet or parliament endorsement.	Publish medium-term budget framework that incorporates medium-term public investment program, taking account of funding requirements of existing projects and potential new investments.
Maintenance	Provide general allocations to routine maintenance based on aggregate estimates of asset values and annual maintenance costs.	Augment the funding of routine maintenance by selective support to capital repairs (major maintenance) and reinvestment projects, based on assessments of the condition of major assets.
Project selection	Simple but consistent framework for project selection comprising a limited number of qualitative criteria, including national development strategy targets.	Expand project selection criteria to include additional quantitative criteria, reflecting improvements in project appraisal capacities and clearly linked to national and sectoral policy, consistent with a medium-term budget framework.
Public procurement	Ensure that procurement strategies are realistic and in line with legislation, that project documents provide the necessary basis for efficient procurement, and that contracts on public infrastructure projects are published.	Require procurement documents for public investments prior to project approval so that the procurement contract can be announced immediately. Publish forward-looking procurement plans for major entities.
Availability of funding	Prepare quarterly cash flow forecasts covering relevant inflows and outflows, including from development partners, and avoid delays in investment payment processing.	Prepare monthly cash flow forecasts and expedite processing of payment orders for public investments.
Project management	Ensure that major projects have identified responsible project managers, clear implementation plans, and monitoring of progress against baselines.	Establish central public investment unit to support project managers and help address implementation challenges.

	Basic Practice	Medium Practice
Monitoring of public assets	Establish register of major government assets, with information about type of asset, owner, location, and initial value, based on simplified reports or surveys.	Establish consolidated register of government assets, with information about asset condition and online updates of asset information and asset values.

Sources: Authors, based on IMF (2022a).

Some key PIM reform areas are also important for public financial management (PFM) more generally. Among the eight institutions we are looking at in this note, this is particularly relevant for multiyear budgeting, procurement, availability of funding, and monitoring public assets. If these institutions are upgraded to support better PIM, this will also provide important benefits for broader PFM capacities. There is extensive IMF guidance on multiyear budgeting and availability of funding in other How to Notes. The Methodology for Assessing Procurement Systems (MAPS) provides comprehensive guidance on procurement, and the International Public Sector Accounting Standards (IPSAS) handbook contains detailed provisions for monitoring public assets (IPSASB 2018; MAPS 2018; Pattanayak and others 2022; Rahim, Wendling and Pedastsaar 2022).

Priority Public Investment Management Reforms in LIDCs

This section provides detailed discussions and granular advice on PIM practices and possible development paths, which may take several years to complete in some LIDCs. The discussion focuses on the eight PIM institutions identified in previous sections. The PIMA framework provides specific benchmarks for good practices for PIM. However, the framework does not provide a detailed road map for how to reach these benchmarks, in particular for low-capacity countries where the starting point may be very far from the recognized good practices. This note aims to provide more detailed guidance in this regard. Annex 1 provides examples of action plans to implement the reforms and develop capacities in line with the discussion in this section. The discussion in this note focuses on the LIDC's own PIM systems. The effect of foreign financing in public investment is discussed briefly in Box 3.

Box 3. Foreign Financing of Infrastructure Projects

In many low-income developing countries, some of the functions covered by critical public investment management institutions are largely left to development partners. This is particularly common for project appraisal, project selection, procurement, and availability of funding.

Also, significant shares of public investment are realized through grants or loans from development partners, and the countries may choose to base their decision making on project documents prepared by or funded by these partners. In these cases, project selection is often weak as well. The availability of external funding or financing becomes a dominant project selection criterion, and there is no comprehensive screening of all major projects against national priorities.

The reliance on external resources for project appraisal is often understandable, given domestic capacity constraints, but this is not a viable solution for long-term development. Over time, countries need to develop their own capacities for public investment management and ensure that all potential projects are systematically assessed against national priorities. External support in this area should include mechanisms for knowledge transfer and domestic capacity building and have the necessary independence from the donors to avoid conflicts of interest. Project implementation units, originally set up to manage externally financed projects in a low-capacity environment, should over time be streamlined and integrated into governments' project management frameworks.

In recent years, many multilateral and bilateral institutions have acknowledged that low-income developing countries' reliance on development partners' systems undermine domestic capacity building, and there have been efforts to rely more on recipient countries' systems and procedures and to ensure that there is effective transfer of

capacities during project implementation. In addition, the share of foreign project financing has been reduced in many countries as their income and development levels increase.

Source: Authors.

Project Appraisal

Project proposals must be systematically appraised to ensure that all key project parameters are identified and considered and that project information and analyses are realistic and credible. The project appraisal process should ensure that all projects are assessed in a consistent manner and that there is sufficient information to make decisions regarding whether a project proposal needs to be further developed or if it can be considered for funding and implementation.

Effective project development and appraisal should be based on iterative processes, where projects are reviewed and some are usually rejected or returned for further analysis and development to the originating ministries or agencies. Only the most beneficial project proposals should reach the full appraisal stage, in order not to waste resources on projects that will not be realized. The appraisal process should differentiate projects of a different size and complexity. For small, routine projects, a basic appraisal process could suffice, whereas large, high-risk projects should be subjected to extensive analysis. A common problem in many LIDCs is that there are too many projects under preparation, that processes do not differentiate between standard and complex projects, and that scarce appraisal capacity is spread too thinly.

Even in a low-capacity country, the appraisal framework can be fairly comprehensive, but the different components should not be too demanding. Table 2 gives an overview of a possible project appraisal framework for a country with limited capacity. It requires that major projects are subject to financial analysis and simplified multicriteria analysis. Direct costs and revenues should be identified and estimated. In addition, the government should assess (qualitatively) the project's effect on other important criteria, such as environmental and social conditions and regional growth and employment, if possible. This assessment can use a simplified scale (positive/negative and low/medium/high). Important project risks should be identified.

Table 2. Basic Framework for Project Appraisal

Appraisal Component	Content
Project rationale, objectives, and targets	Demonstrate consistency with relevant national and sectoral strategies; provide indicative project objectives.
Option analysis	Give qualitative explanation of why the proposed project concept is the best approach to meet project objectives.
Project status and timetable	Illustrate status of project development; provide estimated project timeline if available.
Project description	Present broad overview of main project elements.
Cost estimates	Provide broad estimates of investment costs and operational costs if available.
Revenue estimates	Give broad indication of possible revenue flows from project (if any).
Project benefits and effects	Give qualitative description of known and expected benefits and effects, including social development, environmental effect, job creation, and regional economic effect (if possible).
Risk analysis	Identify key project risks, and potential impacts on costs, benefits, and timetable.
Implementation plan	Identify key project milestones and timetable.
Procurement strategy and plan	Describe key elements of procurement strategy.
Financing plan	Identify secured and requested project financing from relevant sources.

Sources: Authors, based on IMF (2022a).

As countries develop capacity over time, the appraisal framework can be extended and become more sophisticated. In addition to the basic features, an intermediate appraisal framework could include quantitative cost-effectiveness assessment. Project documents could provide more detailed estimates for investment costs and future operational costs, revenues, and major external factors for different project options. Some project benefits may be quantified and included in simple cost–benefit analyses, but this would still need to be supplemented by qualitative assessment on non-quantified external effects. Project risks and the possible effects of relevant risks on costs, revenues, and other features could also be further elaborated. Box 4 provides an example of a medium-practice appraisal framework in Uganda.

Box 4. Project Appraisal in Uganda

Uganda has established a strong framework for rigorous technical, economic, and financial analysis of all major capital projects, regardless of financing source. In 2016 the Ministry of Finance, Planning and Economic Development published "Development Committee Guidelines for the Approval and Review of the Public Investment Plan Projects," which apply to all projects within the public sector. The guidelines established project preparation committees at ministry and sector working group level to facilitate the project preparation and appraisal process. Project pre-investment studies are reviewed and approved by the Development Committee, which acts as independent reviewer and gatekeeper.

Ministry of Finance, Planning and Economic Development also developed the "Public Investment Manual for Project Preparation and Appraisal." The manual has sections on all key aspects of project preparation and appraisal, including qualitative and quantitative risk analysis. Complementing the manual, national parameters for project appraisal were developed. National parameters include the economic opportunity cost of capital (11 percent), the foreign exchange premium (7.25 percent), the premium on non-tradable outlays (1 percent), and a value-added tax of 18 percent. An update of national parameters is currently ongoing and includes additional parameters such as the economic opportunity cost of labor, social value of time, and economic value of natural and environmental resources.

Source: IMF (2022b).

The appraisal function should be supported by a clear and transparent legal and regulatory framework, as well as methodological guidelines and arrangements for training and quality assurance. The extent and complexity of this framework will depend on the appraisal requirements. For low-capacity countries, a simple but transparent legal and regulatory framework is preferable. This can be developed and extended over time, as capacity evolves, and more stringent procedures are applied. Capacity building must initially focus on the central institutions, usually the finance/planning ministries, who will develop regulations, guidelines, and training materials. However, for good projects to be developed, appraisal knowledge and capacity should also be developed and strengthened in key line ministries, agencies, and local governments, with oversight and support from the central institutions.

It is important to ensure consistent appraisal across different projects and sectors. To this end, methodological guidelines should describe how cost estimates should be prepared to ensure that these are realistic and consistent across different projects. The guidelines should also define key assumptions to be used in project appraisal. If this is done separately for each project, the results are not consistent and not suitable for project prioritization. This should include a common discount rate for economic analysis and assumptions regarding population growth and other key demographic factors. Treatment of inflation and taxes in the economic analysis are also important. Over time, countries will also define shadow prices for externalities, for instance, a common shadow price for CO_2 emissions (World Bank 2018).

The defined appraisal process must be based on realistic assumptions about professional and administrative capacities in a country. Appraisal methodologies can be very sophisticated (OECD 2018). Some of the methodologies applied by international development banks put high demands on analytical capabilities and data availability. Some LIDCs have defined national appraisal methodologies that emulate what is done by their development partners. These have often proven to be beyond the capacities of the national administrations, and as a result, the methodologies are ignored in actual project development. In other cases, the countries continue

to be dependent on international consultants to carry out appraisals, with limited national involvement in the process. International financial institution appraisals may also focus on other issues than those of primary interest to the country. The aim should be to develop capacities so that the appraisal process normally can be carried out within available, national resources. However, it may still be necessary to draw on international expertise for large and complex projects.

Multiyear Budgeting for Investment

Systematic medium-term budgeting is an essential prerequisite for a credible public investment process. Development and implementation of major investment projects will be multiyear undertakings. To ensure efficient project development and implementation, the necessary funds for the different steps over the whole project period should be identified and reflected in relevant planning and allocation mechanisms. This should include information about commitments related to ongoing capital projects. Uncertainty about whether a project concept approved for further development or a capital project to be implemented will receive the necessary funding will undermine their successful implementation. The continuous efforts to secure the necessary funding are likely to crowd out critical project development activities. The inability to secure the correct budget allocation normally results in delays and cost overruns because projects are exposed to the risks of changing costs and rising fees from contractors.

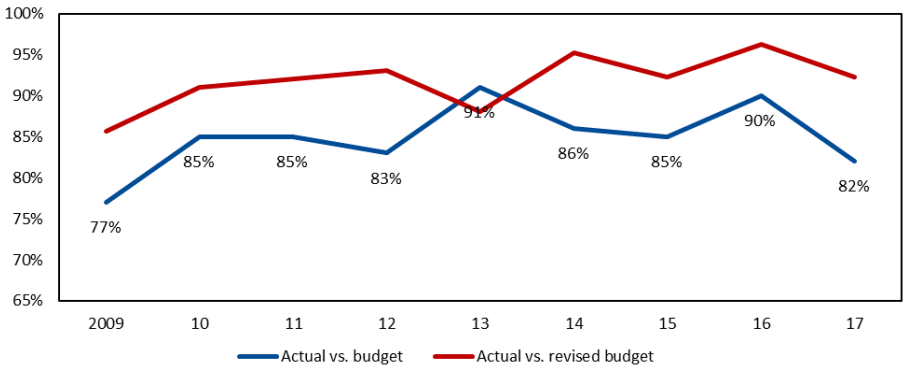
Box 5. Medium-Term Capital Budgeting in Bangladesh

The medium-term budget framework (MTBF) provides capital spending forecasts for two years beyond the budget year, by budget entity (ministry or division). Forecasts are broken down by operating and development spending, as well as current and capital spending. The MTBF also provides forecasts by organizational unit, implementing agency and project.

Budget call circular No.1 provides initial multiyear spending ceilings for each budget entity, but these are not divided by current and capital spending. These ceilings are discussed in a series of tripartite meetings between each budget entity, the Finance Division and the Planning Commission. The end result of these deliberations is the final budget ceilings for the annual budget. These are split into operating and development spending and are included in budget call circular No. 2, which governs the detailed budget submissions from ministries and divisions.

The Annual Development Program provides estimates of total costs for each capital project and the MTBF provides a breakdown of expected costs for each project for the three-year period. These arrangements provide a basic framework for capital investment planning and implementation and support quite effective execution of the Annual Development Program (Box Figure 5.1).

Box Figure 5.1. Execution of Initial and Revised Annual Development Program



Sources: Bangladesh (2018a, 2018b), and IMF staff estimates.

Basic practice implies that there is a clearly expressed political commitment to the government's medium-term public investment plans and their funding over the coming years. A publicly announced political commitment can

provide a basic assurance of medium-term predictability in the funding of public investments. This commitment should be reflected in government or parliamentary endorsement of the medium-term public investment plans and will support gradual development of a credible medium-term budget framework (MTBF). For countries that rely on external financing of public investments, funding assurances from external financial sources will contribute to the medium-term credibility of public investments. These funding assurances will usually be contingent on complying with specific conditions, and their credibility will depend on the government's intent and ability to meet these conditions. To be credible, the politically endorsed investment plans must be consistent with available resources over the medium term, both in aggregate and for individual major projects. This means that there must be secured funding for ongoing projects before new projects are added.

Medium practice entails a published MTBF that specifies allocations to key investment priorities in a medium-term public investment program (PIP). A formalized PIP that reflects existing and new capital spending commitments and is aligned to MTBF resource allocations enhances predictability and assurances to different stakeholders about funding levels and projects that will be implemented over the next few years. A realistic and credible MTBF process adds considerably to the certainty about funding the overall PIP and the major projects in this program. If the MTBF process has a firm legal basis this will strengthen its effect. By establishing a coherent and comprehensive multiyear PIP, as opposed to ad-hoc, annual investment decisions, governments provide important signals about future activity levels. A credible PIP should also include space for emerging priorities and new projects because they are firmed up. Box 5 describes the medium-term budgeting framework in Bangladesh.

Maintenance Funding

Maintenance and repairs of public assets are important to realize the expected benefits and achieve the highest return from infrastructure investment and are less challenging to implement than new infrastructure projects (Rogoff 2020; OECD 2021b). Maintenance projects are typically quite small and standardized, require limited preparation, and face less implementation risks than more complex projects. This is particularly true for routine, annual maintenance (current expenditure), but periodic capital repairs and reinvestment projects also tend to be smaller and less risky than other types of investments.

Maintenance decisions and funding allocations in governments are generally based on three main approaches, which often can be combined:

- **Lump sum, continuation of historic levels**. Under this approach, the starting point for maintenance funding decisions is previous year's funding level. There is no assessment of actual maintenance needs but an underlying assumption that they are at least as high as previous year. This approach is quite common, particularly in low-capacity countries, but it does not constitute a methodology.
- **Share of asset values, differentiated for different assets**. This approach requires estimating the value of different groups of government assets and determining a set of percentages indicating how large a share of the asset value is needed for maintenance purposes. This may include separate shares for regular annual maintenance and periodic major improvement. South Africa uses this approach in its maintenance planning (South Africa 2009).
- **Assessment of asset condition and measures required to maintain or reach adequate condition**. This approach requires comprehensive asset registers, including information on the condition of each asset. Assets are categorized according to sectors to groups depending on their condition (for instance, A: Good, B: Acceptable, C: Deteriorated, and D: Severely impaired). Maintenance funding is based on this information and on estimates for the cost of improving specific types of assets to maintain the current categorization or to reach an acceptable category. For instance, it may cost $1 million per year to maintain a kilometer of motorway in category A, or $10 million to move a kilometer of motorway from category C to A. This methodology is used in many AEs but also in road agencies and energy corporations in some LIDCs (Box 6).

Basic practice for maintenance could involve general allocations to routine maintenance based on aggregate estimates of asset values and annual maintenance costs. In countries with limited capacity, detailed

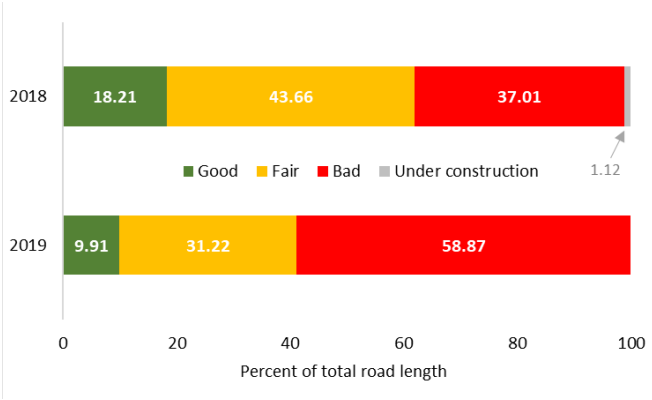
methodologies for assessing maintenance needs are generally lacking and the central government will have limited information about maintenance needs in agencies and sub-national governments. However, it will usually be possible to make rough estimates of asset values in key sectors even in the absence of asset registers and asset values in balance sheets. The accumulated capital investment in a sector over the past 30 years, with a deduction for depreciation, would be a good starting point for estimating asset values. The expected lifetime of different asset classes and the related depreciation rates could serve as a proxy for estimating annual maintenance allocations. The logic would be that the level of maintenance should compensate for the deterioration of the asset to maintain its condition and usefulness over time. For instance, if the estimated average lifetime of government buildings is 50 years, agencies that manage buildings should allocate at least 2 percent of the combined building value for annual maintenance. The annual maintenance spending on each individual asset would be more flexible. This approach is particularly relevant for long-term assets that need to maintain their condition over time, such as roads and buildings.

A more advanced approach would be to augment the funding of routine maintenance by selective support to capital repairs and reinvestment projects, based on assessments of the condition of major assets. This would require asset registers comprising at least the major capital assets and procedures to assess the condition of these assets and the cost of maintaining or improving their condition.

Box 6. Road to Maintenance in Kenya

The Kenya Roads Board (KRB) Act No. 7 of 1999 gives the KRB an overall mandate to oversee the road network in Kenya and coordinate maintenance, rehabilitation, and development. The Board consists of eight members from the private sector, representing different users of the road system, and five members from the public sector. It manages resources allocated to the Road Maintenance Levy Fund from earmarked road-related charges and fuel taxes. The Kenya Roads Board reviews the annual road maintenance programs submitted by the highways, urban, and rural road agencies and consolidates these into a national program, with specification of the amount allocated for maintenance, rehabilitation, and development of each class of roads. The KRB undertakes a countrywide road inventory and condition survey every five years, and the share of roads in poor condition fell from 59 to 37 percent from 2009 to 2018 (Box Figure 6.1).

Box Figure 6.1. Road Condition in Kenya



Source: Kenya Roads Board (2022).

Project Selection

Public investment projects should be reviewed and approved by the government in a consolidated selection process. Project selection should be based on clear and transparent criteria that are applied consistently across projects. In addition to relevant technical criteria, all project selection processes will also have a political component (Schwartz and others 2020). The objective should be to make the selection process as transparent as possible, and ideally, the selection criteria (as well as information on the assessment of individual projects) should be published. Many countries define project selection criteria based on the main priorities in their national development strategies.

The final approval to proceed with a project should not be made until it is fully ready for final investment decision. The project should be adequately prepared and analyzed, and it should be possible to initiate project implementation shortly after the investment decisions. It is better to spend additional time on finalizing project preparation than to risk implementing projects that fail to satisfy key selection criteria. A better-prepared project poses fewer risks, and the likelihood of timely implementation is higher than for projects that have been hastily approved. The selection criteria should comprise both minimum criteria that must be met for a project to be selected, including readiness for implementation, and weighted criteria that contribute to the prioritization of different projects.

Basic practice for project selection involves a limited number of criteria based on a suitable strategic document, for instance, the national development strategy. Usually, national development priorities are quite general, and they need to be refined into more specific selection criteria. Table 3 provides an example of a simple project selection framework that can be applied in a country with limited capacity. The financial viability indicator reflects the direct revenues and costs related to the projects. In low-capacity countries, the ability to quantify benefits will be limited, and it will be difficult to estimate credible benefit-cost ratios to use as selection criteria. Strategic (political) priority is important and can also be seen as a proxy for non-quantified projected benefits and costs.

The strategic priority factor will therefore tend to have a higher weight in low-capacity countries but will gradually be replaced by more objective criteria as capacity increases.

In order to combine the selection criteria and produce an overall assessment, they can be reflected in simple indexes or a heatmap/traffic light framework. The criteria in the example Table 3 are largely qualitative but can be translated into indexes. For instance, financial viability, strategic priority, and job creation can be assessed to be low (0), low–medium (1), medium (2), and high (3). Environmental effect can vary from very negative (3) to very positive (3), with somewhat positive (1) as the minimum threshold for a project to be selected. The time lag to start a project (Issue the tender) can range from immediate (3), up to 3 months (2), up to 6 months (1), and more than 6 months (0). The specifics of the scoring scheme, including the criteria, the indexes, and the weights, will need to be determined in each country based on their priorities and specific situation.

Table 3. Example of Selection Criteria—Basic Practice

Factor	Indicator	Range	Index	Selection
Financial viability	Project revenue/costs	Low – high	0 – 3	Minimum 1 Weight 25%
Strategic priority	Qualitative assessment	Low – high	0 – 3	Minimum 1 Weight 30%
Job creation	Number of jobs	Low – high	0 – 3	Minimum 1 Weight 5%
Environmental effect	Qualitative assessment	Very negative – very positive	–3 – 3	Minimum 1 Weight 10%
Social effect	Qualitative assessment	Very negative – very positive	–3 – 3	Minimum 1 Weight 5%
Project readiness	Time to start project	Immediate – more than 6 months	0 – 3	Max 6 months Weight 25%

Source: Authors.

Over time, the selection process could be refined and based on more comprehensive, quantitative criteria, reflecting more developed project appraisal capacity. The financial viability indicator could be replaced or supplemented by a cost-effectiveness indicator or a basic benefit-cost indicator. The political priority indicator could be supplemented by an indicator reflecting sector estimates of the growth effects of different types of investments. Project risk could be added as a selection criterion. Box 7 provides an example of a systematic project selection framework in an LIDC.

Box 7. Project Selection in Nepal

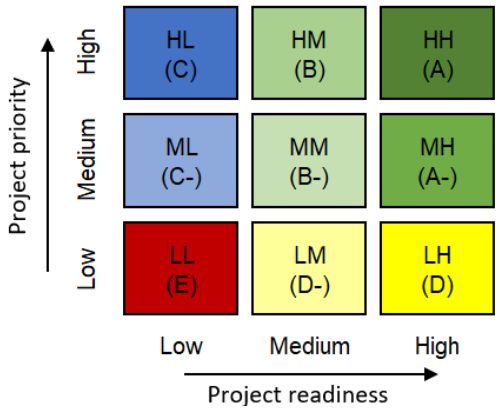
The Nepal National Project Bank guidelines provide a systematic framework for capital project selection based on two dimensions:

The first dimension reflects strategic priority criteria, which include contributions to inclusive economic growth, achievement of Sustainable Development Goals, community participation and inclusiveness, as well as sectoral targets and sectoral Sustainable Development Goals.

The second dimension reflects project readiness criteria, including completion of feasibility study and detailed project report, result framework, available project funding, completed land acquisition, environmental effect study, implementation plan, and monitoring and evaluation plan.

The criterion under each dimension has a specific weight, and the composite scores for each dimension are low, medium, or high (indicated as L, M, and H in Box Figure 7.1). By combining the two dimensions, projects are allocated to nine categories (Box Figure 7.1) and selected for implementation within the available resource envelope according to these categories. Projects in group A (high on both priority and readiness) are selected first, then group A-, and so on.

Box Figure 7.1. National Project Bank Project Selection Criteria



Source: NPC (2020).

Procurement

Public procurement is a key element in realizing public investment projects, and bottlenecks and delays at the procurement stage are major risk factors for timely project implementation. Such problems are sometimes related to the quality of procurement legislation and regulations. However, it is more common that the problems are caused by inadequate project preparation and failure to consistently apply existing procurement rules. As illustrated in Figure 3, many LIDCs have upgraded the formal procurement framework and have fairly high scores on institutional design, but effectiveness is much weaker. Procurement is the PIMA institution with the largest discrepancy between institutional design and effectiveness. This illustrates that the often quite advanced procurement procedures put in place with external assistance are difficult to implement in practice, particularly in low-capacity countries. Attempts to bypass or circumvent procurement rules are common in LIDCs and often lead to delays and cancellation of procurement processes. In many countries, there is a significant scope for improving procurement outcomes simply by consistently applying the legal framework that has been put in place.

Basic practice in the procurement area would focus on ensuring that procurement strategies are realistic and in line with legislation, that project documents provide the necessary basis for efficient procurement, and that contracts on public infrastructure projects are published and open to competitive tendering. Attempts to apply exceptional procurement procedures even for regular projects, often combined with inadequate procurement documents, are major sources of procurement delays, higher contract prices, and corruption risks in many LIDCs, and this should be avoided. There should be legal provisions for multiyear procurement of major projects. If the procurement process is consistent with applicable legislation and regulations, it should be possible to follow the minimum timeframes given in law. High transparency, including the publication of awarded tenders and procurement contracts, is an effective way to address the high risks of corruption and other governance challenges related to procurement. Box 8 describes a fairly basic, but quite effective, electronic procurement system in Bangladesh.

Box 8. Electronic Procurement System in Bangladesh

The Bangladeshi government introduced a web-based electronic government procurement system, e-GP in 2011. The system is managed by the Central Procurement Technical Unit, part of the Implementation Monitoring and Evaluation Division, Ministry of Planning. The system covers procurement of works, goods, and services, with the exception of consulting services. Therefore, virtually the entire development budget that requires procurement is acquired through e-GP, which captures data on each step in the procurement process. The public has access, through the e-GP website, to tender documents, bid statistics and summary contract data relating to each tender, and key performance information covering all tenders announced. The procurement methods used in e-GP have been overwhelmingly competitive, as shown in Box Table 8.1.

Box Table 8.1. Methods Used for Tendering in Bangladesh's e-GP System, July 2011 to September 2018

Procurement Method	Tenders Initiated	Percent	Value (Billion BDT)	Percent
Open-tendering method	141,529	68.0	1,628.6	86.8
Limited-tendering method	63,318	30.4	183.3	9.8
Request for quotation	1,777	0.9	0.2	0
One-stage, two-envelope tendering	1,452	0.7	64.9	3.5
Direct procurement	23	0	0	0
Selection under a fixed budget	8	0	0	0
Selection-based consultant qualifications	5	0	0	0
Quality- and cost-based selection	4	0	0	0
Total	208,116	100.0	1,877.2	100.0

Sources: e-GP, MOP, Bangladesh.

Medium practice would include a requirement that procurement documents for public investments be prepared before the project approval. This will give a better understanding of how a project will be delivered, which has implications for cost and schedule and risk transfers. As much as possible should be known about these dynamics before the project approval. Preparation of procurement documents before the project approval will also help ensure that the procurement contract can be announced immediately and that project delays can be avoided. The ministries, agencies, and public corporations that undertake significant public investment should publish forward-looking procurement plans so potential bidders know what will be tendered and when this will happen. Countries may also allow for prior announcement of project procurement contracts, subject to project approval by the government and appropriation of the necessary funds by the legislature. This provision can only be used where the risk that projects are not approved is small. Medium practice also comprises a well-defined legal and regulatory framework for procurement and competitive and transparent procurement processes.

Availability of Funding

Government payments to contractors during project implementation are often large, and payments are typically based on the completion of certain milestones. If payments are not made on time, arrears emerge and could accumulate over time leading to a substantial increase in government liabilities, as well as reputational damage and corruption risk. The arrears increase project costs directly through explicit late payment penalties and indirectly through higher tender bids if contractors see a pattern of delayed payments by government agencies.

Funding shortfalls and delays have been a common and prevalent problem in many LIDCs. These issues have caused major project implementation delays and significant cost increases. Funding shortages also undermine other aspects of PIM. When line ministries see that approved projects are not funded as planned, their incentives to put efforts into rigorous project planning and budgeting also diminish, exacerbating the weaknesses in the system further. Funding shortage also sends negative signals to the construction industry, making them less likely to tender for work and thereby reducing competition. Private firms may also build in a risk premium in their offers to account for potential nonpayment, further driving up costs.

Basic practice to avoid funding shortfalls involves preparing at least quarterly cash flow forecasts and quarterly releases of funds to central government entities. The forecasts must be based on realistic estimates for cash inflows and outflows, including from development partners, and include the necessary buffers to handle the inherent uncertainty in these inflows and outflows. These forecasts require basic information about commitments related to ongoing capital projects. Cash flow estimates that are based on best-case estimates or wishful thinking will not serve their purpose. The government must also have the necessary payment processing facilities to ensure that payments of project invoices are made without undue delays. Box 9 describes budget funding arrangements in Uzbekistan.

Box 9. In-Year Funding Arrangements in Uzbekistan

Although cash availability was an issue in Uzbekistan previously, reforms in cash management procedures and forecasting have contributed to ensure sufficient cash availability for investment projects. Key reforms included the launch and increased coverage of a Treasury Singla Account, development of a cash flow forecasting framework to support cash management, and adequate cash buffers to ensure liquidity. These changes helped ensure project outlays were provided in a timely manner, with delays occurring in less than 5 percent of cases, and likely happening when documentation is not compliant with accounting rules and payments need to be rejected.

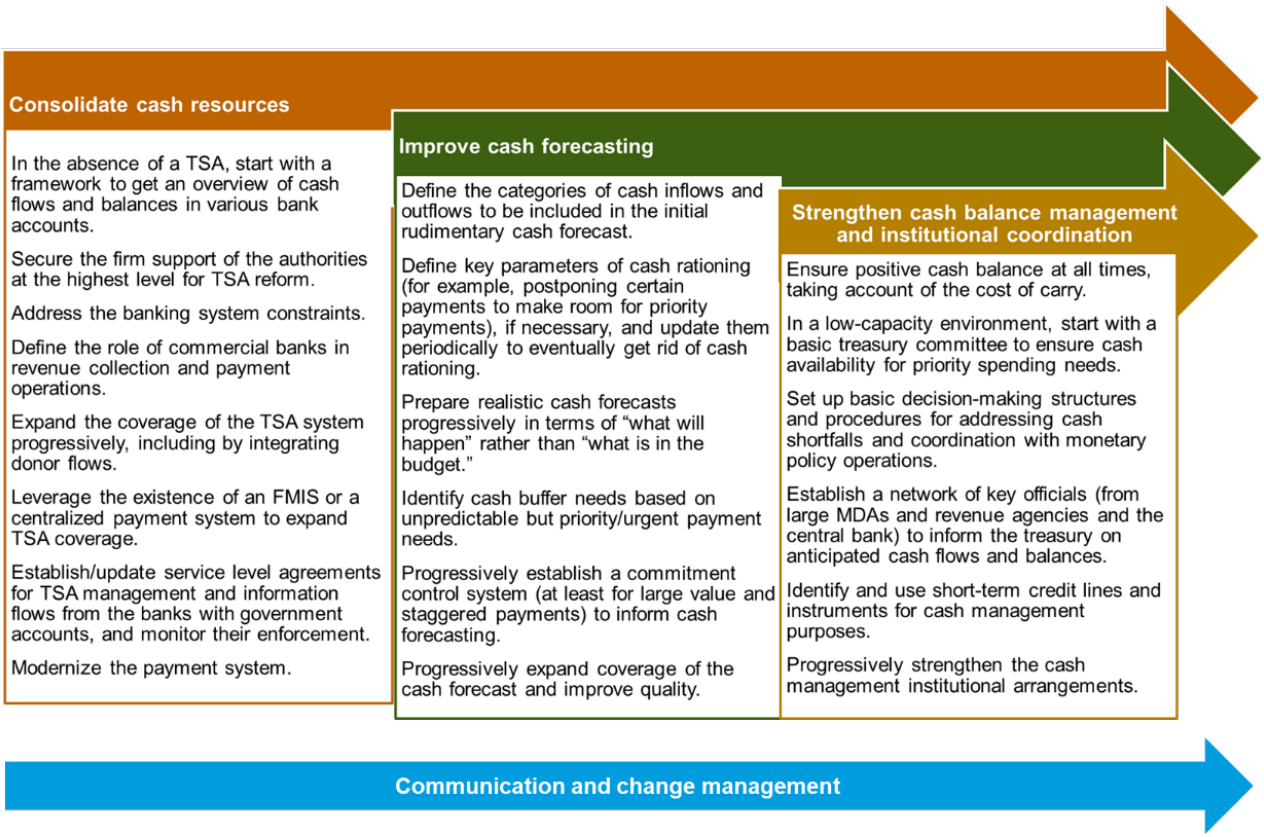
In 2020, the Public Investment Management Assessment for Uzbekistan assessed that investment projects had access to adequate funding. The cash forecasting framework required that cash flow forecasts were updated monthly based on revenue and expenditure forecasts provided by the tax and customs administration and the Treasury, and budget organizations were provided with commitment ceilings for the full fiscal year. Reports were prepared for internal use and cash monitoring and also distributed to the Council of Ministers and the Parliament. The share of cash in accounts outside the TSA was assessed as low except for external financing and foreign currency accounts that were not yet fully integrated into the main government bank account structure, though there was little evidence to suggest these arrangements had led to disruptions in project outlays. The reliance on dedicated donor funding for public investments also enabled implementation of cash buffers.

The authorities continue to push reforms in this area to address the shortcomings identified and improve efficiency in cash management. A transition plan to increase the coverage of the TSA is in place and has already led to the inclusion of foreign currency accounts but not donor accounts, which continued to be managed through commercial banks and are a key source for investment projects. Similarly, cash flow forecasts beyond 1 month are not reliable undermining the capacity to efficiently allocate resources. Improvements in this area will allow authorities to reduce the cash buffers needed, increasing the efficiency of public resources.

Source: IMF (2020).

Medium practice implies that budget releases are made to ministries for the full fiscal year, and fund commitments by line ministries are consistent with available budget appropriations. Cash forecasting should be strengthened over time to include monthly cash flow forecasts because capital expenditure is particularly lumpy. Mechanisms for expedient authorization and processing of payment orders should also be strengthened. The quality of cash management is related to other key PIM institutions, for instance, medium-term budgeting. Figure 4 provides an overview of successive steps countries can undertake to strengthen cash management. As discussed in the previous passages, improved cash management is much broader than PIM and has effects on several different PFM functions. The steps outlined in Figure 4 go beyond what is required for improved PIM, and countries that are moving from low- to medium-capacity situations will want to pursue these for multiple reasons.

Figure 4. Key Pillars of Cash Management Strategy



Source: Pattanayak and others (2022).

Note: MDA = Ministries, Departments and Agencies ;TSA = Treasury Single Account.

Project Management

Good project management and governance are critical for effective implementation of public investment. Successful project implementation means that this is done according to the planned timetable and within budget, and the project's benefits are expected to be realized. To achieve this, it is essential that there is a responsible project manager with clear accountability for the implementation process. The project manager must have the necessary skills, time, and resources to manage the process. The effort put into project management should be commensurate with the size and complexity of the project. For large and complex projects, the manager will often be supported by a team with different types of expertise, for instance, in procurement, engineering, and financial management, and there will be a project governance structure including a high-level project owner. In some cases, the project management function is outsourced to an external contractor. In such cases, there should be a project owner within the responsible government agency with a clear accountability for effective implementation. If this accountability is fragmented, the likelihood of successful implementation is low.

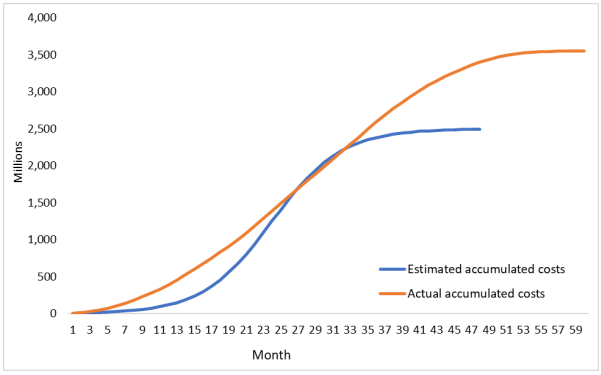
Project implementation plans with baseline timetables for physical progress and expected financial outlays are essential for effective project management. In the absence of baselines to compare with actual progress, it is not possible to ascertain whether the project is on track before it is too late to take corrective actions. Progress is typically recorded on a weekly or monthly basis to allow for early identification and resolution of potential implementation challenges. The project implementation plans should be developed during project preparation and covered by project appraisal arrangements.

The S-curve is a common and effective tool for monitoring and managing investment projects. Figure 5 shows a project encountering cost overruns and delays**.** Actual project costs and physical project execution (orange

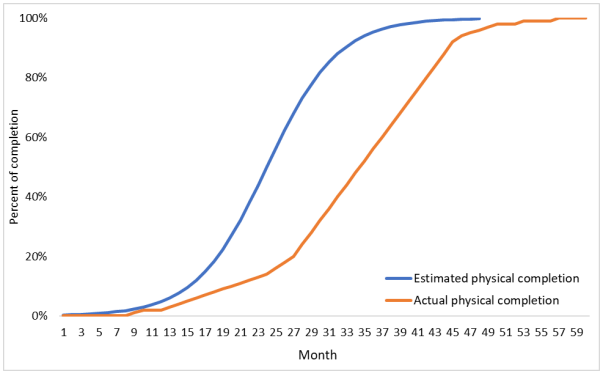
lines) are plotted against planned costs and physical progress (blue lines). Comparing the two curves allows the project manager to assess whether high-cost accumulation is explained by rapid project implementation or is an indication of cost overruns at an early stage. In this example, comparing progress to a baseline allows the project manager to identify deviations from plans after less than 12 months; the manager should determine why actual costs are above the expected although physical completion is slightly below planned and identify corrective actions or the expected effect. In the absence of a baseline, cost overruns and delays may only become visible after several years of project implementation.

Figure 5. Using the S-Curve for Project Management

1. Project X: Financial Execution



2. Project X: Physical Execution



Source: Authors.
Note: The figures show accumulated financial execution (millions) and accumulated physical execution (percent). The figures are illustrative examples and not based on specific analytical models or projects.

Basic practice for project management implies that there are appointed project managers and implementation plans for each major project, with clear timetables and procurement schedules, and proactive monitoring of project implementation against a baseline, using the S-curve or a similar technique. These are the minimum requirements for proactive project management. Initially, low-capacity countries may need to rely on project implementation units established in connection with externally financed projects to establish this basic level of achievement.

Box 10. Project Management in Gambia
Centralized project coordination units within ministries and agencies are responsible for the management of individual capital projects. Many donor-funded projects have disbursement preconditions that require the establishment of such units within the implementing agency or public corporation. Where capacity concerns about project execution exist agencies often outsource project implementation to the Gambia Agency for Public Works under delegated management contracting arrangements. The Ministry of Finance and Economic Affairs has recently established a centralized project coordination units within the Ministry of Finance and Economic Affairs, which will be responsible for overall planning, fiduciary and safeguard support, coordination, and reporting the operations while supporting implementing agencies. The adopted model is meant to manage fiduciary responsibilities of projects particularly to ensure financial management, procurement, and safeguards of multisectoral projects. To ensure institutional strengthening and sustainability, capacity-building programs, including technical assistance and training, are being rolled out.
Source: IMF (2019).

Medium practice implies the existence of a public investment support unit at the center of government that provides support to project managers and helps address project implementation challenges. This support unit should issue guidance and standards to help establish effective governance and reporting arrangements for major projects, with proactive risk managements. Some countries may seek assistance from external financial institutions to establish these support units, whereas others may rely on private sector resources. Any project oversight arrangements drawing on external and private resources should be designed to facilitate knowledge transfer and capacity development within the government. Box 10 describes how Gambia uses centralized project coordination units to strengthen project management.

Asset Monitoring

To provide high-quality public infrastructure services, it is important to have reliable information about the accumulated infrastructure stock. Annual investments add to this stock, but the level of infrastructure services is dependent on the whole public infrastructure portfolio. To manage this portfolio efficiently, governments need to have information about the existence, location, condition, and value of different infrastructure assets. This provides the basis for informed decisions about asset maintenance, upgrades, renewal, replacement, and the addition of new assets. This information is usually kept in a government asset register, which often is a sub-ledger to the government financial accounts.

Many LIDC governments do not have access to this type of asset information, and this severely undermines their ability to manage public infrastructure effectively and efficiently. In some countries, there are no mechanisms for the compilation of information about public infrastructure at all. In other countries, there may be some basic registers in place, but these are often fragmented, and the information is not verified and not current.

The basic practice in this regard is to compile aggregate information about the most important government assets in a basic asset register. This should cover all assets above a certain threshold value, with basic information about the type of asset, the owner, the location, and the initial value. The initial data sources will often be local asset registers, and the consolidation of data may have to be based on manual reporting. In the absence of local registers, it may be necessary for the government entity compiling the asset register to carry out a survey to collect information about the main public assets from different government entities. It is important that the information is consolidated by a central authority so that it can help identify needs and priorities across different sectors and types of assets. Unless this information is consolidated, it is of little use for central government decision making.

Medium practice would entail a consolidated asset register of all government assets. This should include information on the condition of the assets and routines for regular updates of asset information and asset values. This will often be based on an integrated database where data are entered by the entities that own the

assets, but where the information is available for central oversight and decisions. Box 11 describes asset monitoring in Tanzania.

Box 11. Asset Monitoring in Tanzania

The Public Finance Act (2001) and associated regulations require that accounting officers must report to the Ministry of Finance all stores and assets on an annual basis. To support the reporting of assets, the Government Assets Management Directorate of the Ministry of Finance and Planning has issued the public assets management manual (2019) and developed the government assets management information system (GAMIS). The manual and system specify the data to be recorded for each asset, asset classes, and lives for each asset class. The guidelines and GAMIS system apply to all central government votes, local governments, agencies, and public corporations. The manual requires accounting officers to survey assets on a quarterly basis and conduct an annual survey with the participation of the Government Assets Management Directorate to ensure that assets are properly recorded and reported. Assets data recorded in the GAMIS, namely values, assets lives, and depreciation rates, are used in the preparation of annual financial statements. All assets of general government except for subsoil and heritage assets are recorded in the system and subsequently the annual financial statements (Box Table 11.1).

Box Table 11.1. Tanzania: Value of Property, Plant, and Equipment (Billion Tsh)

	2021	2020
Land	17,771	17,227
Roads	19,568	17,491
Office buildings and structures	10,610	9,408
Works in progress	17,654	10,932
Other	29,279	23,860
Total gross assets	**29,279**	**78,968**
Accumulated depreciation	(16,544)	(9,610)
Total net assets	**78,428**	**69,358**

Sources: Tanzania (2001, 2019, 2022).

Overcoming Implementation Challenges and Making Reforms Happen

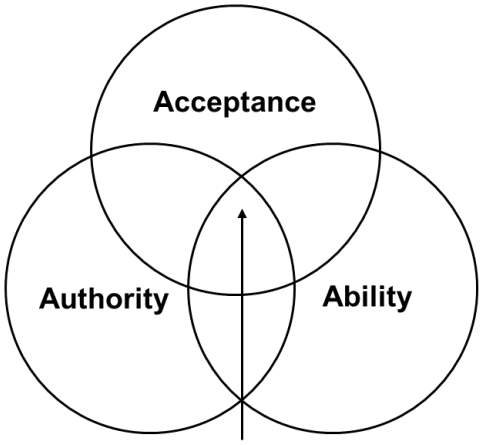
Successful PIM reform requires that the reform process is both well designed and effectively managed. Appropriate technical design of the reform measures, as discussed in the preceding section, is a necessary but not sufficient step toward improved PIM in LIDCs. In this section, we will discuss how LIDCs can organize the PIM reform process to ensure that the planned improvements are realized. This discussion draws on the reform space model, which indicates that successful public sector reform takes place in the intersection between acceptance, authority, and ability (the three As), as defined by Andrews (2008) and summarized in Box 12.

Box 12. The Reform Space Model

Is there **acceptance**:
Of the need for change and reform?
Of the specific reform idea?
Of the monetary costs for reform?
Of the social costs for reformers?
Do embedded incentive mechanisms facilitate or hinder acceptance, especially when transitioning fully from old to new? Etc.

Is there **authority**:
Does legislation allow people to challenge the status quo and initiate reform?
Do formal organizational structures, rules, allow reformers to do what is needed?
Do informal organizational norms allow reformers to do what needs to be done? Etc.

Is there **ability**:
Are there enough people, with appropriate skills, to conceptualize and implement the reform?
Are there appropriate information sources (to help conceptualize, plan, implement, and institutionalize the reform?) Etc.



Reform space, at the intersection of A, A, A, determines how much can be achieved.

Source: Andrews (2008).

To ensure that complex PIM reforms are successful, there must be explicit high-level support for the reform program (authority). This support should be anchored in legislation and policy documents that are supported by the government and endorsed by the parliament. The responsibility for successful reform should be clearly assigned to the relevant minister and senior civil servant. If it is difficult to mobilize the necessary high-level support for important reforms, it is unlikely that they will succeed.[4]

The reform program should be managed by a dedicated PIM reform unit with the necessary skills and capacity (ability). The PIM reform unit should be headed by a project manager who reports to the responsible senior civil servant and has been given the necessary authority to manage the reform program effectively. The PIM reform function could be assigned to an existing unit, which is responsible for processing public investments, or it could be a new, separate unit. In any case, the unit must have sufficient resources to manage the PIM reforms. If the reform program activities are crowded out by operational tasks, the program will not be successful. The PIM reform unit should be anchored in a central ministry with clear functional responsibility and the necessary resources.

It is essential to build capacity and support in ministries and agencies (acceptance). Proactive outreach, training, and support will help different stakeholders understand the new public investment requirements. It is also essential that institutional developments and procedures are designed so that stakeholders see clear benefits of these. If the reform measures primarily are perceived as an additional burden with little value to ministries and agencies, it will be difficult to ensure consistent compliance. Compliance can to some degree be promoted through sanctions, but results will generally be much better when stakeholders perceive the new frameworks as useful.

[4] Including PIM reforms as conditionality in IMF programs can be an effective way to ensure the necessary high-level support. This requires that the reforms are carefully tailored to the specific circumstances of the country. See IMF (2019).

PIM reforms must be tailored to each country's context and priorities. It is important to fully understand the country-specific causes of weak institutions and practices, as well as the potential drivers of improvement. As discussed, some PIM weaknesses are common across LIDCs. Recent literature on public investment efficiency and more general PFM reforms identifies factors that can affect PIM capacity and efficiency (Gurara and others 2017; Barhoumi and others 2018).

Reform objectives and strategies must be realistic in light of the country's circumstances. A reform program should comprise a limited set of high-priority reforms, linked to the major PIM weaknesses in the country. There should be a clear and realistic timetable identifying the necessary steps over a three- to five-year period. The PIM institutions discussed in this note will be candidates for inclusion in many reform programs, but again, this will differ across countries. Box 13 describes a series of PIM reforms in Timor-Leste after the 2016 PIMA.

PIM reforms should be consistent with and incorporated into broader national development and PFM reform strategies. Reform priorities should reflect the specific needs of the country in regard to public investment. The PIM system should also be designed to accommodate the level and structure of public investment that is embedded in the national development strategy. This will help ensure necessary political support for the reforms.

PIM reforms must address gaps and weaknesses in institutional design but should put an even stronger emphasis on the effectiveness of the redesigned institutions. As demonstrated in most PIMA reports and supported by the literature (for instance, Andrews 2010), PIM systems are generally stronger on paper than in reality. One reason may be that de jure improvements can be achieved through a single decision, for instance, a new law, whereas de facto improvements require consistent efforts over a long period.

The PIM reform process must be monitored, with regular reporting to the responsible senior civil servant and minister. A detailed timetable for stepwise introduction and development will facilitate effective monitoring. This can be done by extending the monitoring of the overall PIP to include specific metrics for implementation of reforms. This will also facilitate the identification of systemic challenges to timely implementation or cost control for specific projects and help further motivate the needed reforms.

Box 13. Successful Public Investment Management Reforms in Timor-Leste

Timor-Leste has a multiyear public investment program specified in a separate volume of the budget documents each year. A Public Investment Management Assessment mission in 2016 pointed out several areas for further improvement in public investment management. In the following years, the public investment management framework has been gradually extended and strengthened. There is strong political support for this work, and the Ministry of Finance and the line ministries play active roles in developing the system. The public investment system is managed by the dedicated Major Projects Secretariat, and there is significant emphasis on capacity building. Key milestones in the reform process include the following:

- Project Appraisal Guideline (August 2017)
- Project Brief Standard Form (2017)
- Model TOR for IF projects (February 2018)
- Feasibility Study Guideline (May 2018)
- Fund Administration Manual (December 2018)
- Ex-Post Evaluation Guide (2019)

Source: Tanzania (2022).

Annex 1. Examples of Action Plans for Key Public Investment Management Reforms

Reforms to introduce basic practices are in black. Reforms to develop medium practices are in blue.

The examples assume that the reforms start from a low-capacity level. If countries have taken some steps already, the timeframes could be adjusted. If reform programs cover several objectives at the same time, the timetables may also need to be adjusted to ensure realism and avoid bottlenecks.

Annex Table 1.1. Examples of Action Plans for Key Public Investment Management Reforms

Actions	Year 1	Year 2	Year 3	Year 4	Year 5
Project appraisal: Appraise major investment projects to assess their strategic importance, expected costs and benefits, and their readiness for implementation.					
Legislation		Update PFM law to include clear mandate for consistent appraisal of major projects.			If needed, update PFM law to support more comprehensive project requirements.
Methodology	Develop manual for basic project appraisal.			Update manual to support more comprehensive project appraisal.	
Regulations and procedures		Budget circular: Require that project proposals be prepared in accordance with manual.			PIM circular: Require that project proposals be prepared in accordance with updated manual.
Capacity	Establish central unit to oversee and support project appraisal process.	Provide guidance and training to budget entities.	Provide guidance and training to budget entities.	Provide guidance and training to budget entities.	Provide guidance and training to budget entities.
Information system	Develop basic database for project appraisal documents.	Develop basic database for project appraisal documents.		Expand database to support updated project appraisal requirements.	
Medium-term budgeting: Prepare multiyear budgets that ensure the credibility of project planning and the efficiency of project implementation.					
Legislation		Update PFM law to include clear mandate for medium-term capital spending estimates in budget process and documents.			
Methodology	Develop methodology to estimate capital spending over three- to five-year	Develop methodology to estimate capital spending over three- to five-year			Develop methodology to estimate all budget spending over three- and five-year period, from top-

	period, from top-down and bottom-up perspectives.	period, from top-down and bottom-up perspectives.			down and bottom-up perspectives.
Regulations and procedures		Budget circular: Require that budget process is based on medium-term estimates for capital spending.	Disclose medium-term estimates for capital spending in budget documents.	Disclose medium-term estimates for capital spending in budget documents.	Disclose medium-term estimates for capital spending in budget documents.
Capacity	Strengthen macro-fiscal and budgets units as required.				
Information system		Extend system(s) for macro-fiscal and budget planning to include medium-term capital spending estimates.			
Maintenance: Apply maintenance methodologies that preserve the value and the performance of public investments (See also objective 7: Asset monitoring)					
Legislation			Review PFM law to see if collection of asset data or maintenance allocations require legal amendments.		
Methodology	Develop methodology to collect survey data on major existing infrastructure assets and their condition.	Develop principles for valuation of assets and coefficients for maintenance funding.			Develop methodology for estimating maintenance needs based on asset condition for one major sector.
Regulations and procedures		Issue regulation that requires budget entities to provide data on major infrastructure assets.	Use methodologies and data to estimate maintenance needs for major infrastructure projects and reflect them in budget.	Specify maintenance allocations for major infrastructure projects in budget.	Specify maintenance allocations for major infrastructure projects in budget.
Capacity		Conduct awareness and training event for those budget entities that will provide data for major assets.			

Information system	Develop database to capture major infrastructure assets.	Develop database to capture major infrastructure assets.			
Project selection: Select projects with high likelihood of achieving strategic objectives and high net benefits compared with costs, and that are adequately prepared and consistent with available resources (dependent on objective 1: Project appraisal).					
Legislation			Update PFM law to include clear mandate for consistent selection of major projects.		
Methodology		Develop criteria and process for project selection, drawing on manual for basic project appraisal and national development strategy.			Update criteria and process for project selection, drawing on updated manual for comprehensive project appraisal.
Regulations and procedures			Issue regulation specifying how the selection methodology will be used during fiscal planning and budgeting.		
Capacity		Mandate central unit to oversee project appraisal to also support project selection process.	Provide guidance and training to budget entities.	Provide guidance and training to budget entities.	Provide guidance and training to budget entities.
Information system			Extend database for project appraisal documents to include documentation of project selection process.		
Procurement: Procure infrastructure projects that achieve defined objectives, subject to adequate oversight to avoid governance challenges.					
Legislation			Review and update procurement legislation as needed.		
Methodology	Prepare guidance on practical application of existing procurement legislation and regulations.				
Regulations and procedures			Review and update procurement regulations, including to minimize the use of exceptional procedures.		Update PIM regulations to require that procurement documents are prepared before the project approval.
Capacity	Give central procurement unit the authority to oversee and support	Conduct training to ensure that agency procurement			

	procurement in government agencies.	staff have the necessary skills and competencies.			
Information system				Develop and pilot e-Procurement system.	Roll out e-Procurement system.
Funding availability: Ensure that funds are available for approved project, to avoid project delays and cost escalation.					
Legislation	Amend relevant laws to require that all domestic funds be consolidated in TSA.			Amend relevant laws to require that external funds pass-through TSA.	
Methodology		Develop methodology for quarterly cash flow forecasts, drawing on both aggregate and detailed data.			Update methodology to provide monthly cash flow forecasts, drawing on both aggregate and detailed data.
Regulations and procedures		Issue regulation defining institutional roles and responsibilities, as well as coordination and decision procedures for cash management.	Issue regulation specifying information to be provided from different stakeholders to the CMU.	Review procedures for processing public investment expenditures, to ensure effectiveness and avoid delays.	
Capacity	Establish CMU.	Conduct training of main stakeholders in cash forecasting (CMU, budget, revenue, debt).	Conduct training of other stakeholders that provide information to the CMU.		
Information system		Develop spreadsheet model for cash forecasting, drawing on data from other PFM systems.			Develop cash forecasting and management module as part of GFMIS.
Project management: Implement projects in accordance with budget, timetable, and specifications.					
Legislation					
Methodology		Develop basic methodological guidelines for project management.			Update guidelines for project management in light of experiences.
Regulations and procedures	Issue project management regulation, specifying key roles, responsibilities, and procedures.				
Capacity		Provide training on basic guidelines for project management.	Provide training on basic guidelines for project management.	Establish central support unit for management of major infrastructure projects.	Develop recurrent training program for project management.
Information system				Introduce system for consolidated monitoring of major projects, with	

				interfaces to other PFM systems.	
Monitoring public assets: Compile information about the existence, location, condition, and value of public assets to support investment planning, prioritization, and maintenance.					
Legislation	Update public accounting law to provide mandate for central asset register.			Update public accounting law to provide mandate for recording of fixed assets in public accounts.	
Methodology	Develop methodology to collect survey data on major existing infrastructure assets and their condition.	Develop methodology for compilation of fixed asset register.			
Regulations and procedures			Regulation that sets out requirements for compilation and reporting of fixed asset data.	Develop accounting standards for infrastructure assets.	
Capacity				Training of asset management and accounting staff in budget entities.	Training of asset management and accounting staff in budget entities.
Information system	Develop database to capture major infrastructure assets.				Develop fixed asset module to public accounting system.

Source:Authors

Note: CMU = cash management unit; GFMIS = government financial management information system; PFM = public financial management; PIM = public investment management; and TSA = treasury single account.

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