

DRAFT CURRENTLY UNDER REVIEW AND UPDATE



Draft Pre-Feasibility Study Guidelines

November 2010

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AND UPDATE**



CDIA

Cities Development Initiative for Asia

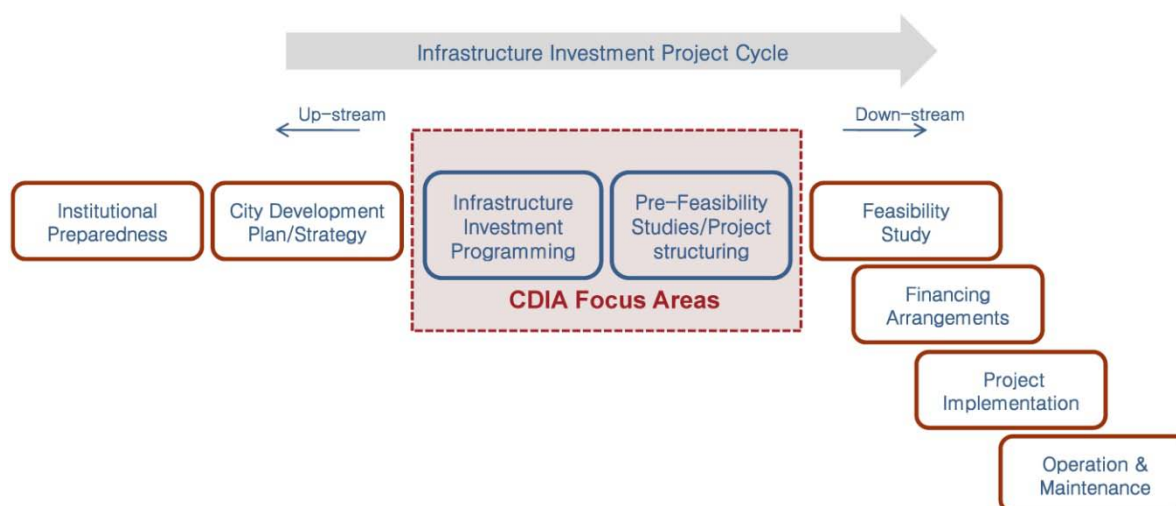
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1 INTRODUCTION

The Cities Development Initiative of Asia (CDIA) is a regional initiative established in 2007 by the Asian Development Bank and the Government of Germany, with additional support of the governments of Sweden, Spain and Austria¹. The initiative provides assistance to medium sized cities to bridge the gap between their development plans and the implementation of their infrastructure investments. CDIA uses a demand driven approach to support the identification and development of urban investment projects in the framework of existing city development plans that emphasize environmental sustainability, pro-poor development, good governance and climate change.²

Figure 1: CDIA market niche



This manual sets out the objectives, process, and techniques required for the second focus area shown above – the Prefeasibility Study (PFS). CDIA uses a demand-driven approach to support the identification and development of projects that emphasize one or more of the following impact areas:

- Urban environmental improvement
- Urban poverty reduction
- Climate change mitigation and adaptation
- Good urban governance

The overarching objective of a PFS is to formulate an integrated, inclusive and sustainable project addressing institutional, technical, financial economical, social and environmental (climate change) concerns. The PFS process involves a tri-partite partnership between the city, PFS consultants and CDIA Core Management Team (CMT), working to identify, conceive and structure prioritized urban development projects needed to improve the living conditions in a city.

These guidelines are meant to assist cities and PFS consulting teams achieve the above objective, through a high quality process and output, delivered within time and budget limits they clarify the PFS process, describe the content and outputs and set minimum standards for performance by the city, the PFS consultant team and the CDIA CMT. They have been prepared by the CMT in Manila, Philippines, with support and input from a range of stakeholders, including consultants, city officials, program partners and technical experts.

¹ Austria joined the programme in 2010.

² For more information about the CDIA programme, see our website www.cdia.asia

2 WHY DO WE NEED GUIDELINES?

Experience from PFS work in some 25 cities in 12 countries (to date) shows that the definition of the PFS and the perception on what needs to be done can vary significantly. Therefore the guidelines aim to achieve a common understanding of where to go and how to cooperate in a PFS:

- the Client city will be in a better position to host and work in parallel with the consultant team carrying out the PFS assignment;
- the consulting team will better understand what is expected from them and deliver a product of higher quality; and
- CDIA will be better placed to provide a more responsive and improved service to the subject city and to other cities involved in the Initiative

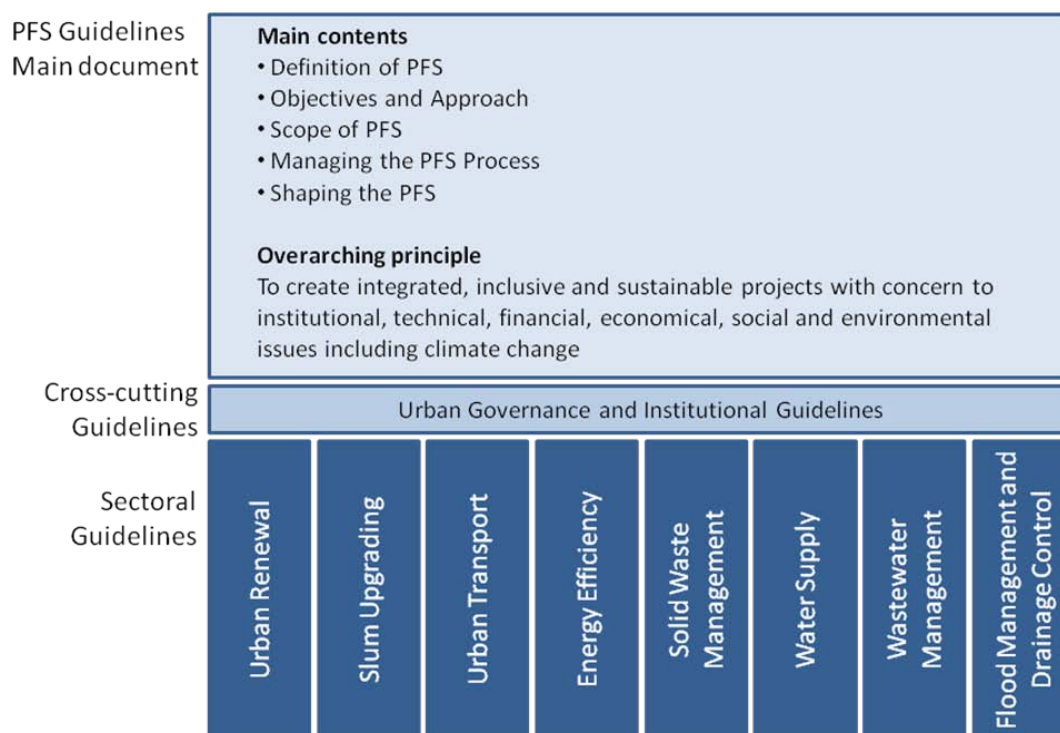
The guidelines, “set the scene” for the partnership between the city, the PFS teams and CDIA in the PFS process. It is a joint effort, with the city residents being the ultimate beneficiary.

The guidelines which describes the “how” of a PFS, do not replace the terms of reference (ToR) for PFS assignments, which describe the “what” and “when” of a PFS. The ToR are set out in the technical assistance agreements between the city and CDIA and/or the contract between the PFS team and the PFS financing agency. This document thus supplements the ToR.

These guidelines should be read in conjunction with a cross-cutting document, the **Urban Governance and Institutional Development Guidelines**, see annex 2 and seven (7) **Sectoral Guidelines**. The former is relevant to all sectors as good governance is a prerequisite for success and sustainability.

The Sectoral Guidelines describe the PFS process in a number of key sectors in more detail, tailored to the issues likely to be encountered in the sector. The sectoral guidelines cover the following sectors: Urban Renewal, Urban Transport, Energy Efficiency, Water Supply, Wastewater Management, Flood Management and Drainage Control and Solid Waste Management (see Figure 2). They are available from the CDIA Manila office and on the CDIA website?

Figure 2: Relationship between PFS and sector guidelines



4 WHAT IS A PFS³?

A Pre-feasibility Study can be defined in several ways and differently depending on the local context, but the over-riding goal of the process is to provide a basis to link a project idea to funding sources which will enable implementation.

A PFS is broadly defined as preparatory studies required to enable funders to undertake a successful feasibility study for a particular investment opportunity; this generally will comprise sector investment options and priorities, initial scoping and costing of the identified investment project and designing the governance and financing structures for implementation. Typical outputs provide the technical, financial, environmental, and social assessments of projects at a level of detail sufficient to write the Terms of Reference for a feasibility study.

It is important to emphasize that the purpose of the PFS is generally to prepare for the next phase, i.e. a full-blown feasibility study (FS) or direct financing.

- The PFS only involves preparing conceptual engineering design at the technical level. This is distinct from the detailed level of engineering design typically expected in an FS for ADB and World Bank. The accuracy margin for the costs in conceptual engineering design varies, but should not deviate more than 20%.
- In the PFS the level of policy, social, environmental and institutional analysis is less detailed than an FS though this will vary according to the level of detail asked in the terms of reference and the nature of the assignment.

³ Reference: CDIA Operational Guidelines

- Financial and economic analyses will contain internal rates of return but again the expected accuracy margins will be higher (approximately plus or minus 20% as compared to an FS where a margin of 5% is expected based on a more detailed engineering design).
- The PFS report, more accurately described as a “City Intervention Report” may contain several different components. It may include an Infrastructure Investment Programming component detailing the output of this process (the first Focus Area in Figure 1) and one or more PFS components assessing priority projects. These guidelines focus on the latter and the links between the two focus area components which will be incorporated in a PFS report. The Infrastructure Investment Programming exercise is the subject of a separate guidelines and toolkit.⁴

The PFS can comprise two distinct activities.

- **Medium Term Infrastructure Investment Programs (MTIIPs):** Where the city master plan and sectoral plans are insufficiently detailed, a reworking of investment priorities, including sector reviews, may be necessary. In any event, the MTIIP context needs to be described for designated investment sectors. This process may need to be carried out parallel to, and inform, the Infrastructure Investment Programming process.
- **Project PFS:** The PFS process will include assessment of one or two priority projects within the MTIIP.

5 AN INTEGRATED APPROACH

To achieve sustainable urban development, our interventions must rest on a number of important guiding principles. These principles should be integral to a CDIA PFS.

- i) **Urban environmental sustainability**
Strive to improve environmental and health conditions through careful selection and design of infrastructure projects and investments which will be self-sustaining in the long-term.
- ii) **Climate change mitigation/adaptation**
Encourage municipal investments which mitigate the causes of climate change and adapt local infrastructure to meet the effects.
- iii) **Urban poverty reduction**
Support cities to identify investments which positively contribute to social and economic development and help the urban poor access better opportunities, and which work towards reducing poverty.
- iv) **Good urban governance**
Support cities in developing more inclusive, transparent and accountable forms of civic engagement, working closely with stakeholders to identify the city’s investment needs. (See appended separate Cross-cutting Guidelines on Local Governance and Institutional Development).

Moreover, the CDIA process shall be characterized by a pro-active approach to the above:

⁴ Toolkits.

1) The PFS will not only explain possible adverse or other impacts from an infrastructure investment and recommend mitigation measures, but actively promote good governance, poverty reduction and environmental improvement - on early stage in the PFS process. This means that the initial assessment of the situation and needs will include these issues as a basis for the infrastructure design and recommendations.

2) The PFS will seek to coordinate with and build off other urban development plans, technical assistance, and investments of government agencies, the private sector, and NGO/CBO and informal sector. The proposed project must also, as far as possible, integrate with and supplement other interventions, financed by development assistance agencies.

6 SCOPE OF PFS

The specific scope and tasks of a PFS will be determined in the Terms of Reference (ToR). Generally, a PFS undertaken under CDIA would include the following:

- Objectives and background, purpose of the PFS;
- Assessment of the current situation and gap analysis and the urban development context, including e.g. social, institutional/legal, environmental, technical, financial issues;
- Discussion of sectoral options and priorities based on city development strategy, comprehensive land use plan etc. and development and description of sectoral MTIIPs;
- Preliminary assessment of investment programmes linkage to urban environmental improvement, urban poverty reduction, urban governance improvement, climate change and social and gender impacts, and if applicable, preliminary assessment of possible adverse environmental and social impacts and how to mitigate adverse impacts⁵, flag these issues for the anticipated FS. ;
- Project identification, review of technical options and features the potential project(s), conceptual/preliminary design, identification of beneficiaries;

For each project assessment;

- Preliminary assessment of potential economic and social benefits;
- Preliminary estimates of project costs and of financial sustainability;
- Assessment of the needs for capacity building and recommendations to ensure proposed project sustainability;
- Recommendation of likely implementation and operation arrangements for the potential project(s) including possible public-private partnership (PPP) potential;
- Development of financial and/or economic analysis based on available information, providing the basis for negotiation with potential financiers;
- Elaboration of needed downstream work, drafting of ToR for a Feasibility Study, flagging of issues to be considered in detail;
- Risk assessment with focus on sustainability in down-stream work (implementation and operation/maintenance); and
- Conclusions and recommendations.

More details can be found in **Annex 1**.

⁵ Safeguarding the environment, Indigenous Peoples, resettled people, i.e. to prevent, minimize or mitigate harmful environmental impacts, social costs, marginalization of vulnerable groups that may result from development projects.

7 MANAGING THE PFS PROCESS

The PFS is designed to be an inclusive, open and consultative process. Though implemented through consulting teams, it must be a joint partnership between the consultants and recipient city government or corporation. Each plays a key role in implementing the process.

Key Milestones in the Assignment

The terms of reference should guide the PFS assignment, however in order to ensure that the process is clear, structured and delivers a coherent output the following milestones are suggested (see figure 3):

a) Team mobilization

International and national consultants are mobilized to the project and city location to hold initial meetings. This is an opportunity for the consultant team, city and CDIA CMT to be introduced to each other and signals the formal commencement of the assignment. It is essential that the Team Leader, the Deputy Team Leader and other team members (where possible) are present in these first round of discussions to review e.g. ToRs, counterpart responsibilities, logistical issues and expectations. This is also the time when stakeholders should be identified and a communication plan for internal as well as external communication will be prepared. CDIA's experience shows a good start sets the tone for the assignment.

b) Inception Phase

An Inception Report is normally produced within 4 weeks of commencing the assignment. The consulting team will have conducted a situation/gap analysis of the specific urban and related sector; identified potential bottlenecks/challenges; set out approach for the remaining study, with a clear personnel/milestone schedule and defined the study boundary. **This will be done in consultation and partnership with the city.** The inception report will be submitted to CDIA once it has been approved by the city.

c) Mid-term (Interim) Phase

The Interim Report is normally submitted within 3-4 months of commencement. This will document the MTIIP including the situation/gap analysis across the key investment sectors and development themes (institutional, public finance, social, economic, environmental, political and organizational) and the process of identifying project options and sector priorities if not already described in existing goals.

The process of bringing priority projects to pre-feasibility in terms of financial, economic and social analysis should be well underway at this stage in close consultation with the city and other primary stakeholders. Experience shows this is crucial to broad ownership of the investment ideas and projects. During this phase, training and institutional development activities may be undertaken through stakeholder workshops or similar.

d) Draft Final Report

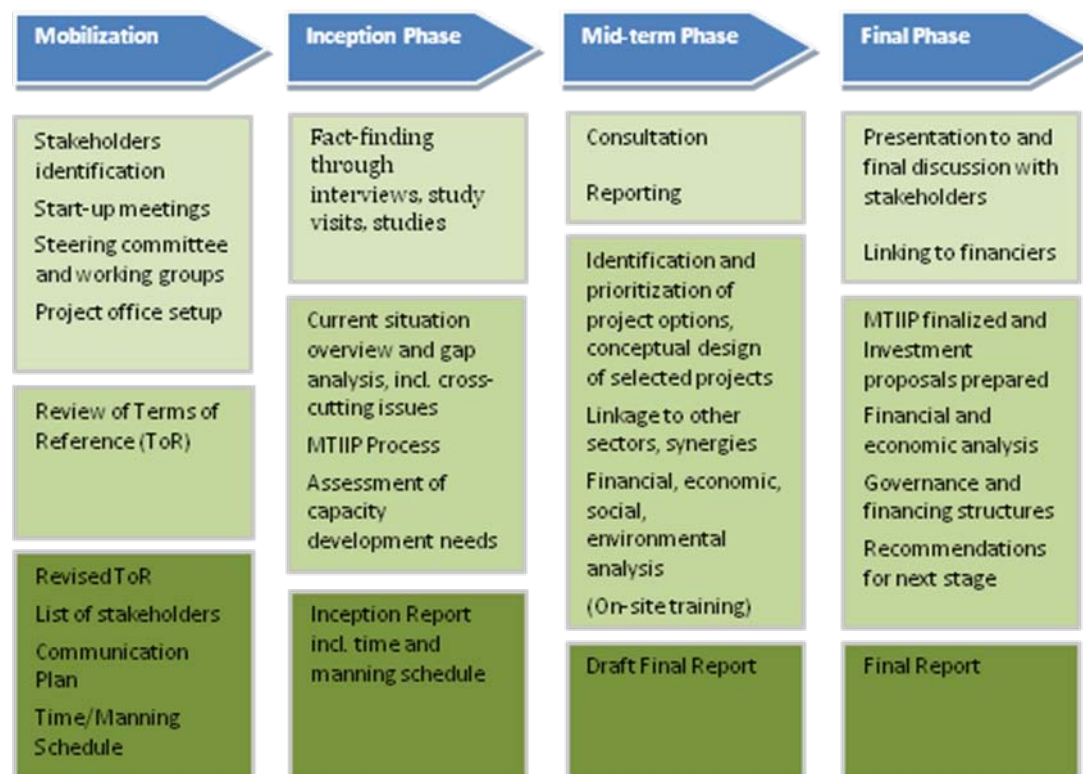
This report should be submitted one month before the completion date of the assignment. At this juncture, the team and city have agreed on a set of priority projects which have been subjected to pre-feasibility level analysis and preparation. This includes sketch engineering design; financial analysis (FIRR); economic analysis (EIRR); social and poverty analysis; environmental analysis.

Furthermore, the report will describe options/scenarios for project implementation. The report findings and project investments will be discussed with stakeholders and submitted to CDIA when consensus has been reached with the city and other stakeholders.

e) Final Report

Once CDIA and the city have commented and provided feedback to the consulting team on the draft final, the Final Report should be submitted within 2-4 week period of the completion date. The final report should include all relevant topics set out in Section 6 above.a

Figure 3: Key milestones in the PFS



Quality Standards

PFS Consulting Teams:

CDIA expects the highest professional standards from its consulting teams. This applies to both national and international experts. Failure to deliver these standards undermines CDIA's credibility as an institution at the forefront of sustainable urban development for Asia.

CDIA understands that by their nature consultancy assignments are challenging and experiences vary across the region, however the following minimum standards will apply:

- i) All experts (national and international) will be expected to provide their inputs in the project location/site. Home based/out of field inputs must be clearly justified.
- ii) Teams will be expected to make themselves available for steering committee meetings and periodic stakeholder consultation. These are a means of ensuring quality and anchoring the findings from the PFS and represent important milestones in the PFS process. This is especially true of the team and deputy team leaders.
- iii) CDIA sees relationship management as a critical element of the PFS process. Overall team and deputy team leaders are expected to foster positive relations with their respective city counterparts. Failure to achieve this can undermine the credibility of the PFS process and products and ultimately CDIA. CDIA is prepared to help facilitate this process.

- iv) Teams will be expected to work closely with their counterparts in government and, where applicable, CDIA National Partner Organizations to integrate and institutionalize the PFS processes and outcomes into the planning and development processes of the host city.
- v) In the unlikely event of conflict arising between the PFS team and city, or the failure to deliver outputs to international standards, CDIA will hold the fielding firm responsible for discharging the assignment and Project Director/Team Leader accountable for the lack of performance.

The Cities:

- i) Cities which agree to work with CDIA do so within the framework of a technical assistance agreement. Though not legally binding, this governs the relationship between the CDIA, the city and the PFS consulting teams on the ground. CDIA anticipates that cities will meet their commitments set out in the technical assistance agreement and any other reasonable requests for assistance to ensure a successful PFS outcome.
- ii) Cities are expected to deliver on their agreement to provide counterpart contributions and information stipulated in the technical assistance agreement in a timely manner so as not to delay the study. Cities are required to nominate officers from relevant departments to work with the consulting team for the duration of the PFS and to ensure they are available at reasonable notice.
- iii) Cities must constitute a project steering committee and facilitate its operation. It is the structural mechanism by which CDIA, the PFS consulting team and the city assess progress, determine direction and ensure quality is maintained during the study and is crucial to a successful outcome.

CDIA CMT:

- i) CDIA will provide oversight and quality assurance to the PFS process and support from Manila where deemed necessary.
- ii) The team leader will maintain regular contact with the appropriate CMT member providing updates on progress (frequency to be agreed).
- iii) CDIA will monitor progress against the agreed terms of reference and deliverables. All payment invoices will only be approved upon the delivery of agreed outputs to the satisfaction of CDIA and the city.
- iv) CDIA will provide support to PFS consulting teams where necessary in executing the assignment successfully
- v) At the end of the PFS, CDIA will undertake an internal performance evaluation of the PFS consulting teams. CDIA may share this assessment with its partners i.e. ADB, GTZ, SIDA, Spain, InWent and KfW.

8 SHAPING THE PFS

6.1 Structuring the PFS Process

Level of detail

At a PFS level, the question most frequently asked by consulting teams tends to be - how much detail is required in the PFS? Note that the PFS is often developed during a relatively short time period, typically 6 months. It is vital the time is shared between assessment phase, project development and financial/technical recommendations in a sensible way to avoid exhaustion of resources in fact-finding only.

The pre-feasibility level indicates that feasibility studies will follow, and thus, the PFS team should limit itself to preliminary/conceptual design with more detailed work to follow in subsequent feasibility.

Data collection

Experience to date has shown that teams can be overly preoccupied with the need to generate new data, rather than using secondary sources. This not only eats into limited project time, but also tends to use up scarce financial and human resources. While, the veracity of some sources of data can be questionable, some secondary sources (previous reports, official data, and multiple indicator cluster surveys) can be a reliable option. The final judgment call should be made by the PFS project management and city. CDIA appreciates in some instances primary data may be essential to the assignment i.e. transport sector. However, if a social survey or similar is considered, it should be realized that it is often time-consuming and the purpose and benefit must be clear. Teams are expected to use their professional judgment to make appropriate assumptions where primary data are not available.

Design Monitoring Framework

A design monitoring framework (DMF)/Log Frame matrix will be a key output from the PFS and should be attached to the final report. The DMF summarizes key expected outcomes, impacts, and activities; provides indicators for monitoring, flags risks, and describes proposed project activities for the investment. The development of the DMF, starting with a “problem tree”, can be a very useful exercise in integrating team perceptions, and those of city agencies and stakeholders and providing a shared vision of the task at hand.⁶

The DMF also allows CDIA to monitor whether cross-cutting themes and development objectives are addressed in the feasibility and subsequent implementation phase of the projects. A template is attached for reference in Annex 2.

Accessing Finance for Projects

Experience has shown that a strong focus is needed throughout the PFS process on charting what the next steps will look like. Some PFS reports have shown how projects can be financed, but have lacked clarity on how and who needs to be targeted to access financing for the identified investments.

⁶ Reference ADB guidelines on DMF preparation (on web).

The team leader and financial experts of consultant teams should at an early stage, begin mapping which institutions might wish to finance the projects or components of projects. Both public and private sector sources should be considered and consultants should set out clearly and what needs to be done to attract the desired institutions. As set out in more detail in sector guidelines, it is important to map of the private sector investment landscape when resource options are being considered for projects. PFS teams should advise their counterparts on the potential opportunities offered by financial innovations including through the private sector.

Building support for the investment program:

All too often it is possible to forget that investment programs and proposals need to be owned and endorsed by the general public, political representatives and other stakeholders within a city. This is especially true, when national/domestic resources are being considered in co-financing arrangements to implement the programs. While this is the responsibility of City authorities and relevant Government agencies, the consultant team must convey the required process to the steering committee and assist where possible. Without a structured approach to this issue, moving to the feasibility and beyond can be jeopardized.

6.2 PFS Outcomes

The contents in the PFS report (s) will vary depending on the nature of the assignment. However, teams preparing PFS should ensure that at their respective ToRs are met and delivered in the areas to be addressed. Table 1 presents a checklist and one possible structure for a PFS.

The Medium Term Infrastructure Investment Program (MTIIP)

In the absence of detailed and recent sectoral master plans, regardless of whether there is a city spatial masterplan, it may be necessary for a PFS team to revisit projects and priorities within a sector in order to augment the sustainability outcomes of proposed investments and to achieve potential synergies and efficiencies among investments. For this purpose, PFS team may help the city prepare sectoral MTIIP setting out a proposed investment programme. The program needs to be considered, and prioritized, in the context of the available budget and financing possibilities.

For example, within an urban transport pre-feasibility study, it is conceivable that a review of the public transport networks and the potentials for integration among nodes will see proposals emerging for a bus rapid transit system, road rehabilitation, and port terminal development. In some instances where the social, economic, financial and environmental costs and benefits have been assessed and projects found viable public funding may be the best source of finance. Conversely, a team may decide with the city that borrowing options are limited and therefore the only viable option would be to engage the private sector for financing only one or two projects while supporting community/informal pro-poor solutions to local transport.

The outcome of such a process will enhance the impact in key cross-cutting areas as described below.

Key development areas

CDIA support is geared towards promoting a more sustainable approach to the development of urban infrastructure that benefits all, including the poor, mitigates environmental degradation and climate change and contributes to improving the process of urban governance. Therefore these issues need to be at the heart of the PFS process. CDIA, thus, wishes to ensure these issues are embodied in an integrated approach to investment planning and implementation is under its PFS

process. In this process PFS teams will strive to achieve outcomes in the key cross-cutting themes as presented below.

Urban governance

This is critical to efficient and equitable functioning of cities in Asia. Where participation, civic engagement and bottom up planning do not come naturally to public sector organizations, the ability of cities to prepare sustainable urban development solutions is compromised, and what emerges is ad hoc development skewed in favour of the few. The urban poor are often marginalized with resulting social tensions.

Understanding these issues and building transparent and efficient governance mechanisms into the design of infrastructure investment projects is thus essential. PFS teams and cities need to work closely to squarely address these issues and develop innovative solutions to them that are appropriate to the social and financial context.

Urban poverty

The urban poor investment may be overlooked. CDIA wishes to ensure its PFS teams proactively seek to include the poor as beneficiaries of its investments. This outcome will be fostered by a process in which citizens (especially women) from all walks of life are invited to participate in framing the vision of a city, identifying infrastructure investments which contribute to their economic development and improve access to basic services, and participating in their provision. PFS teams should work with counterparts in government to identify the poor, their needs (particularly women) and the kinds of investments which will reduce poverty.

Environmental sustainability, climate change mitigation and adaptation

CDIA support must always strive at improving environmental and health conditions through careful selection and design of infrastructure projects and investments. This means not only to safeguard the environment in urban development in a traditional way but to introduce and prioritize environmental projects and environmental components within a project. For instance, a transport project initially dealing with road improvement and public transport may include components on renewable fuel, traffic management and other elements that benefit the environment.

All projects should also include an assessment of climate mitigation potential and/or adaptation needs, and describe investments needed to address these issues. This may also have bearing on the financial analysis in terms of carbon credits etc.

Capacity development

Another essential element of the PFS process is the transfer of skills and technology from the PFS team to counterparts in city governments. This is never easy and the limited time available for the PFS process makes it even more difficult. However, it can be achieved in a number of ways consistent with CDIA's Capacity Development Strategy.

- Joint working activities with city counterparts provide opportunities for transfer of skills, technology and knowledge from the technical experts to their colleagues. Examples might include skills to design and conduct field surveys for transport projects; project prioritization and design; economic and financial analysis; presentation skills; and report writing to mention a few. This methodology requires counterparts to be integrated into, and play an active role in, project teams.
- Training sessions can be organized by either specialized experts in the team or by CDIA-contracted staff – normally related to one of the number of tools developed in house to build capacity within cities, for example, to prepare urban infrastructure investment planning and programming. The need and timing should be determined jointly by the city and consulting team.

- CDIA has identified potential National Partner Organizations (NPOs) in the region which have aims compatible with CDIA's mandate. NPOs will offer cities the opportunity to access technical resources for preparing investment programs and to development organizational capacity in this field. For example, an NPO specializing in financing feasibility studies through private sector participation could be linked with a city to build PPP capacity.

With the help of the CDIA CMT, PFT teams and the city need to assess where NPOs could best add value to the PFS process and how they can be involved with the city in short, medium, and long terms.

- The PFS process should recommend capacity development measures which need to be taken up by the feasibility study team. A draft scope of work and/or outline terms of reference should be prepared if possible.

6.3 What happens after the PFS?

Once the PFS final report has been submitted and the consulting team disbanded, there can be an uneasy vacuum, despite the fact that it should be the start of one of the most important phases in the project cycle. This new stage presents a number of challenges and raises several important questions.

The consultants, city officials, and CDIA CMT should explicitly consider and agree:

- Firstly, to which institutions, and in what form, should the final PFS reports be presented?
- Who now leads the process of finding the money needed to finance the feasibility study?
- Who takes responsibility for building political and public support for the investments identified in the MTIIP and PFS?
- What can CDIA do to facilitate this next stage where feasibility resources have not already been earmarked?

The consultant team and the concerned CDIA CMT officer(s) should work with staff of potential financing and/or capacity building institutions to ensure a smooth transition typically, this might be with an ADB project preparatory technical assistance (PPTA) or KfW feasibility study.

Annex 1: PFS Checklist

1.0 EXECUTIVE SUMMARY

1.1	Objectives	Brief information of project objectives and background.	()
1.2	Summary of analysis	Summarize the stages of the PFS, brief description of current situation and recommended projects and strategies including tentative cost estimate.	()

2.0 INTRODUCTION

2.1	Reporting structure	Brief introduction to the PFS, objectives of the report and how it is structured.	()
2.2	Schedule	Indicate the schedule of the study.	()
2.3	Consultant(s) and Counterpart(s)	Involved consultants(s) and counterpart staff	()

3.0 ANALYSIS OF KEY DEVELOPMENT ISSUES

3.1	Current situation	Indicate Project area, policy and legislation, institutional structure and finance, analysis and overview of the current situation and its impact (successes and failures) Possible diagnostic tools SWOT/PESTLE (political; economic; social; technological; legal and environmental)	()
3.2	Urban Development Context	Analyze previous urban development strategies, plans, sector plans, investment programmes. Were they successfully implemented or not. If not, why? What are the implications for developing new investment programmes and financing? Highlight new urban development strategies and thrusts. Map investment trends; prominent sectors; neglected sectors; priority sectors; spending review	()
3.3	Urban Governance	Examine relationships between the following: <ul style="list-style-type: none"> • Other service providers • State/provincial government • Private/business sector (PPPs) • Civil society • Citizens • Political representatives • Informal economy and sector Conduct stakeholder analysis linking to investment planning and programming; review and legal and regulatory policies/frameworks and environment Current institutional arrangements for implementing investment projects and programmes. Are these successful, where are the	()

		problems and will new modalities be needed in the future i.e. PPP etc.	
3.4	Urban Poverty and Social Cohesion	<p>Identify the poor; areas where poverty is concentrated; review how they participate in investment decisions; what role they play in civic governance; map trends in infrastructure investment for the poor; assess their needs compare with priorities set by city. Where relevant and possible preliminary gender analysis to be included.</p> <p>Conduct a social policy analysis of previous investment programmes in urban infrastructure areas. Map trends and patterns and likelihood of future investment.</p>	()
3.5	Environmental Sustainability and Climate Change	<p>Highlight key environmental issues facing city; lack of infrastructure and its environmental and health effects as of now or in the future, identify regulatory framework, institutional capacity and strategies for working with environmental sustainability;</p> <p>Level of climate change awareness, preparedness; areas for mitigation and potential adaptation investment areas.</p>	
3.6	Capacity Development	Identify where gaps exist in capacity; have these been addressed in the past; how is professional capacity built in the organization; what are the implications for urban infrastructure investment planning; key focus areas for building capacity in taking city forward. Prepare proposals for capacity development	

4.0 PROJECT IDENTIFICATION

4.1	Recommendations	Study's recommendations and analysis to improve the urban situation. Alternative broad technical solutions and preliminary design, social-, environmental- and institutional aspects.	()
4.2	Project Descriptions	<p>Project description to include:</p> <ul style="list-style-type: none"> - Project title - Sector / Sub-sector - Location (maps, photos as required) - Implementing agency (institutional arrangements) - Technical description and aspects - The project's linkage to other urban project development, possible synergies, innovative technology - Project benefits and outcomes 	()

		<ul style="list-style-type: none"> - Beneficiaries - Social, poverty, gender impacts - Environmental impacts - Project Costs (US\$) - Operation and Maintenance Cost - Recommended implementation schedule - Potential for private investment - Potential for community involvement/contributions 	
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5.0 CROSS CUTTING ISSUES

5.1	Assessment	Preliminary assessment of how the project is linked to urban environmental improvement, urban poverty reduction, urban governance improvement and social and gender impacts. Elaboration of possibilities to satisfy needs within these cross-cutting areas, possible synergies, connection between formal and informal development and activities	()
5.2	Adverse Environmental and Social Impacts	Preliminary assessment of possible adverse environmental and social impacts and how to mitigate those by safeguards (environment, indigenous peoples and resettled people). Flag these issues for the anticipated Feasibility Study. (Refer to ADB's checklists on social and environmental assessments)	()

6.0 FINANCIAL AND ECONOMIC ANALYSIS

6.1	Project Costs	Preliminary estimates and summary of project costs of identified and prioritized projects.	()
6.2	Municipal revenues	Analysis of the current municipal revenues, recurrent internally generated and other revenue (funds from irregular sources that can vary significantly from year to year). In addition, analysis of grants and loans situation.	()
6.3	Municipal expenditure	Analysis of recurrent expenditure, other expenditure (operation & maintenance, possibly electricity etc) and development (capital) expenditure.	()
6.4	Financing Plan	Highlight municipal revenue streams and projections from where the investments might be financed. This could be set out in short-medium – long term based on previous trends.	
6.5	Financial viability	Preliminary estimates of project costs Analysis of the current investment situation to derive a financial envelope to finance the identified investment projects. Undertake financial analysis of the project (including /FIIR). Elaborate various funding scenarios considering potential	()

		loans/grants from development banks, possible private investments and government contribution, producing projections of financial statements as required to evaluate viability. (Refer to ADB guidelines on economic and financial analysis)	
6.6	Economic Analysis	This will assess the costs and benefits of all projects. An EIRR analysis is to be prepared and presented particularly spelling out the social and economic benefits yardsticks used and underlying assumptions. For revenue generating projects, the FIRR may be used as a starting point, modified by considering any externalities, if applicable (for further reference see ADB guidelines on economic and financial analysis).	
6.7	Conclusions	Conclusion remarks of the current investment situation and the affordability to finance identified investment projects.	()

7.0 IMPLEMENTATION ARRANGEMENTS

7.1	Implementation and Operation Arrangements	Recommend and elaborate likely implementation and operation arrangements for the potential project(s) including possible potential of public-private partnership (PPP). Indicate possible institutional weaknesses and suggested measures to rectify the situation.	()
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8.0 RISKS

8.1	Assessment	Initial assessment of the key risks for each proposed project (political, social, economic and environmental)	()
8.2	Assumptions	Identify the major assumptions which are made for recommended projects. Indicate if there are any circumstances outside the control of the recommended project, if they occurred, would prevent the achievement of the main objectives. These assumptions would be analyzed further at the feasibility stage.	()
8.3	Risks	Identify broad risks to both implementation and sustainability. Indicate risk management strategies, if relevant. To be further developed at the feasibility stage.	()

9.0 FORTHCOMING FEASIBILITY STUDY (if required)

9.1	Further studies	Indicate the need and reasons for further studies, if required.	()
9.2	Feasibility requirements study	Briefly summarize the requirements to indicate likely data and survey needs, required expertise, support facilities, locations, and institutions to be consulted, skills required on the team and time	()

		requirements.	
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10.0 CONCLUSIONS AND RECOMMENDATIONS

10.1	Conclusions and Recommendations	Summarize the conclusions and recommendations from the study. Highlight key issues and suggested way forward for the local government and/or city.	()
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11.0 APPENDICES

11.1	Appendices	To be attached as necessary e.g. data and survey sheets, detailed technical descriptions and costing, project fiches, key references etc.	()
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Annex 2. Local Governance and Institutional Development Guidelines



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Urban Governance and Institutional Development Guidelines

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1 Background

This note is a tool for CDIA and the consultants involved in implementing pre-feasibility studies. It responds to the need for cities to develop a better understanding of how urban infrastructure projects can be implemented successfully. Success here is defined as 'beyond technical, financial and economic considerations'. It is widely believed that progress (in Asia) cannot take place in the absence of good governance. In that context understanding the institutional landscape within which city development takes place is essential. An inability to consider the institutional characteristics of cities raises the risk of implementation failure. Urban infrastructure Investments are not identified designed and implemented in a vacuum. Cities are complex systems, underpinned by processes, relationships and diverse interests. This includes the interface between formal and informal actors, the rich and poor, local politics, access to resources and local governance. Understanding how a 'city is run' should underpin any urban infrastructure investment programme. So how can this achieved?

Ideally, by ensuring that technical experts, project managers and policy makers begin mapping the complex city system referred to above i.e. the relationship between urban governance, service delivery and poverty. From CDIA's perspective this must begin at the Pre-Feasibility Study (PFS) phase. Such assessments in the PFS need only be preliminary, but flag and zero in on those areas requiring deeper and more thorough examination in the Feasibility Study (FS). This should enable the FS team to focus more sharply on those areas that pose the greatest potential risk to successfully implementing infrastructure projects and investments.

Experts dealing with institutional development/urban governance should cover the following areas as part of their scans.

2 Key urban governance and institutional development areas

2.1 Types and features of municipal government

Municipal government can vary in structure, urban administrative authority and jurisdiction. . Not all public services will be provided by municipal government. Water supply, transport, electricity, planning, regulations and provision may be the responsibility of higher levels of government or development authorities or of private concessionaires. . Local roads, and parks, education, basic health and solid waste management tend to be local/municipal/city government functions. It is important that the responsibility for implementing investments in a city context is understood. The physical and administrative boundaries between local governments and other service providers do not always align. This has a significant impact on the institutional design of projects. All key stakeholders need to be mapped in in the

governance structure of the city and that of other institutions/levels of government relevant to service provision for the city.

Summary: Describe types and levels of municipal government and service providers; types of services provided; respective jurisdictions; boundaries and authorities.

2.2 Decision-making structures and processes

Municipal governments across Asia use varying decision-making structures, each offering its own challenges to investment planning and programming. The executive is now often a directly elected mayor with an assembly, which generally provides for scrutiny and increased transparency and accountability. Mayors in different countries have a wide range of powers and administrations having constraints. Limitations to terms of office are often very constraining. Senior officers may come and go with implications for continuity of plans, programmes and investments. In other countries, part or all of local government administrations maybe appointed and the issue is to what extent an externally appointed representative can respond to local priorities.

Summary: Describe types of decision making and approval powers and their implications for investment planning and programming

2.3 Urban politics

Whatever the system of governance politics tends to play a central role in the way decisions are made. This can be formally or informally. The impact of politics in the way cities manage themselves is both positive and negative. Where decentralization has been implemented, multi-party systems have sometimes led to more transparent decision making. However, this has also created political fragmentation, where elite political representatives co-opt communities, and civil society organizations to retain influence. The relationship between politics and citizen participation is important. Critically, for investment planning and prioritization this raises questions, of how investments are identified, who identifies them and do they reflect the needs of all sections of society, particularly the poor. To what extent are local/state politicians involved in the process of investment prioritization and does the city vision reflect consensus between the legislature and executive? Past trends and practices should be reviewed to assess the likelihood of the success rate of future investment planning exercises.

Summary: Describe the key city political dimensions; characteristics of the relationship between legislature and executive; degree of citizen/civil society participation in investment planning and programming; role of the poor in urban governance and management viz investment planning

2.4 Relationship between political representatives and the executive (public service management)

The relevance of this relationship cannot be under-estimated for achieving efficient and inclusive city development and urban management. Often over-looked, this dynamic will more often than not determine whether projects and investments are endorsed and receive adequate financing. The tendency is for elected representatives to view executive staff as hindering their

plans and goals. Conversely local bureaucrats see politicians as ‘interfering’, representing vested interests with a disregard for proper procedures, formal processes and a poor understanding of ‘real’ needs. Where this relationship is characteristically weak or unpredictable developing new sustainable infrastructure investments will be difficult. This is a considerable risk to investment projects.

Summary: Describe the dynamics between the executive – legislative (local/provincial/national) arms of government and how the relationship has affected previous capital investments - patterns and trends.

2.5 Internal organisation

Municipal government can be organised in a number of ways. It is important to remember that each organisation will have evolved its own structural, political, economic, social and cultural system. The inter-play between these forces will determine how effectively the municipal government is able to deliver its mandate. Leadership and management styles will vary which determine how new investments are identified, prepared and executed. Relationships with external constituencies such as civil society and the private sector vary widely for many reasons and characterize the traditional nature of public administration and governance. Poor HRD, HRM and finance compound matters for many municipal governments in planning and preparing new investments.

At the municipal level, services tended to be delivered in one of the following ways:

- Semi-autonomous executive agencies or municipally owned enterprises;
- Contracting out to private companies, NGOs or community organisations;
- Franchising services to private organisations;
- Selling of state owned assets and service organisations to private sector; and
- Public – private partnerships to develop new investment
-
- These structures need to be documented.

Summary: Document the organisational structure and culture; leadership and management style, and types and experiences of public service provision; Describe the nature of the relationship with external constituents (private sector, civil society).

3 **Public Finance**

Lack of financial resources is often the most significant factor why municipal governments are unable to meet the needs for infrastructure development. Traditionally municipal governments feel under-resourced and unable to allocate money to new investments. Firstly, because a major portion of any municipal budget is spent on meeting organisational overheads. Secondly, local revenue (tax) bases tend to be limited. Thirdly, public expenditure management systems (budgeting, expenditure evaluation) tend to be inefficient. Finally, central government transfers maybe intermittent and linked to a political agenda. Examining the capital expenditure trends and liquidity base of municipal governments will shed light on their capacity to finance new investments.

3.1 Financing capital investment

Municipal governments have the following means of financing capital investment:

- Charges for services
- Budget surpluses (if they exist)
- Government grants (national and state)
- Sales of assets
- Borrowing (if possible)
- Private investment and PPP
- Municipal bonds (if possible)
- Municipal credit institutions and development funds

All of the above should be explored at the PFS. In conjunction with the finance expert in the PFS the key questions these areas should be trying to address are:

- How much money is needed to meet the capital investment needs of the city?
- How has the city concerned financed capital investments in the past?
- Is it possible to continue financing in the same way or are new innovative ways needed and if so what are they? What implications?
- Can new institutional finance partners be accessed, who might they be and why might they want to invest in the city? How can they be attracted?

Summary: Undertake a public expenditure management assessment; assess capital investment trends and practices; set out financing options - public and private, and the institutional implications for the financing plan

4 Relationship between formal and informal sector

In any city the scale and type of stakeholders will vary. Some will be formal such as government institutions, businesses, civil society organizations. Others will constitute the informal economy, traders, community groups and business etc. The inter-play between these sectors often determines what outcomes a city can expect for its citizens; this is particularly true of sectors such as solid waste and transport. Mapping these relationships, their political economies and stakes in sectors such a waste disposal and transport is an area that deserves attention when planning to make large scale investments which will be formally regulated. For instance street traders and other informal sector workers can constitute anything upwards of 20% of employment in any given city. Managing the sector is not without its challenges for urban policy makers. Therefore mapping these relationships and understanding how investments in any city context will affect these relationships and dynamics should be an essential component of city planning. This can be done thorough a stakeholder analysis and mapping.

Summary: Define the formal and informal sector; undertake stakeholder analysis in focus sectors; winners and losers in urban sectors such as SWM, transport, water supply; previous trends and experiences (successes and failures)

5 Urban Policy Frameworks

Investment planning and programming should be driven by a clear policy framework. Ideally there will be a national policy, followed by state/provincial policies and then at city or local government levels. Typically, the national framework sets the tone and can be linked to financing of investment as is the case with the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and Transport Sector. However this is not always the case. In many instances there will be a national environmental or climate change policy, but no national or local responses. However the PFS should aim to capture the policy hierarchy (national-state-local) and assess if these gaps are likely to hamper successful implementation or if linking to national policies/resources provides an opportunity.

Summary: Describe the national, state and local policy framework and hierarchy for urban sectors under investigation; implications for investment planning and programming; previous trends and experiences.

6 Institutional design options for sustainable project implementation

Successfully implementing investment plans requires robust implementation arrangements. The importance of these tend to be under-estimated. If these arrangements are not adequately addressed, project success is unlikely. Here are some contemporary approaches to mitigating such hurdles.

6.1 Overcome the lack of representation in the policy/project formulation process

There is rarely a formal mechanism that allows the involvement of local/community representatives in the policy or project formulation process. However, such representation is often a pre-requisite for effective implementation, especially, where sensitive local conditions shape the environment in which the projects will be implemented. Such measures enable all key stakeholders to play a part in developing and implementing projects/investments thereby improving local governance, and the chances of successful completion and outcomes.

6.2 Establish an appropriate coordination mechanism

A high level city development board/committee could be constituted to ensure the coordination between various departments and agencies to plan and monitor the implementation of the projects. This board could comprise local political representatives of higher levels of government; ; the heads of key departments (local and provincial); agencies and administrative secretaries; and representatives of civil society (including private sector) as members. Periodic board/committee meetings should be held in the city itself, preferably with the city CEO, presenting progress on the investment programme and its development activities. This high level board should not only ensure people's participation in the project formulation/implementation through formal meetings but also avail itself the opportunity to meet the people involved in projects and facilitate coordination among diverse organisational institutions.

6.3 Create a PPP or 'Special Purpose Vehicle' (SPV) for innovative project financing

Small and medium sized municipal governments with a weak economic base and unpredictable revenue streams are unlikely to be able to raise finance from the capital markets. In this instance, where a specific viable project can be ring fenced new ways of developing such infrastructure projects should be explored. Often referred to as 'Special Purpose Vehicles' these institutions employ a range of financial arrangements, involving appropriate mix of debt and equity, guarantees and contractual arrangements to finance the projects.

Options for risk-sharing partnership between the public and private sector for bankable infrastructure projects can also be explored, usually using an SPV structure. Typically, the public sector is the contracting purchaser of services, let on a short, medium or long term basis. The private sector is the provider of services, depending on the nature and characteristics of the contract, sharing the risk of the delivery (costs and benefits). There is a wide range of options and structural arrangements i.e. concession; BOT; joint venture or complete privatization set out in the CDIA PPP Manual.

6.4 Robust governance processes

Good monitoring, control processes, leadership and accountability are often overlooked when designing project implementation structures. However, these are essential if success is to be achieved in project implementation especially where complex institutional structures are being proposed. These take on greater prominence where the public and private sector are coming together for the first time. It is essential to incorporate these elements into the design process and indicate precisely who/which institution will provide leadership, take responsibility and be accountable for delivering project success.

7 Conclusion

Understanding the institutional landscape within which urban infrastructure investment plans and programmes are framed is critical to the long term success of projects. City development initiatives do not take place in a vacuum but are subject to interplay between political, social, economic and cultural forces. The institutional context of a particular city is almost always in a state of flux. If CDIA PFSs are to prepare successful investment plans and programmes these dimensions must be considered and will identify the critical success factors for the urban infrastructure investment programmes.

WASTEWATER MANAGEMENT GUIDELINES

for CDIA PRE-FEASIBILITY STUDIES



A. Introduction

CDIA Sectoral Guidelines are designed to provide a description of the general approach to prefeasibility studies (PFS) in the sectors most commonly encountered in CDIA support to cities. They are not meant to replace Terms of Reference (TOR) or to provide detailed technical input for consultants – who are assumed to be qualified and experienced professionals in their field and thus technically capable.

1. Context

This Wastewater Guideline is assumed to be utilized in the context of existing policies, visions, plans and studies pertaining to this area and other related issues.

It may apply to the carrying out of a prefeasibility study for a project or group of projects (herein after referred to as 'the Project') following previous policies or plans and prioritized for implementation by the local government or other relevant authority.

This guideline is one sector-specific appendix to the overarching CDIA Guidelines for PFS Studies¹, which sets out the format, process and output requirements in general. This will not describe the planning process for wastewater management planning, but only indicate (Appendix 1) the PFS role in relation to the city development plan and assist the consultant to determine where some 'infill' work may be needed. This guideline addresses the approach expected of consultants engaged at the PFS stage and addressing wastewater management issues.

2. Objective

The objective of CDIA support to the formulation of any wastewater treatment project is to *enhance the impact, sustainability and inclusiveness of the project*. This means that the project should:

1. Comprise a viable component of *integrated wastewater management*, including a holistic approach to provision of services and infrastructure, institutional capacity, environmental and social concerns, economic and financial systems (see section B);

¹ See CDIA "Guidelines for Pre-Feasibility Studies" 2010



2. Be *inclusive* in the sense that stakeholders should be involved 1) to ensure a tailor-made and sustainable wastewater treatment system having considered a range of possible options for tailor-made solutions, accessible and affordable to all regardless of income level, education, gender etc. in the targeted areas 2) to minimize the risk of unfounded (investment) decisions and adverse impacts. Any risk of negative impact should be clearly communicated and measures taken to adequately compensate stakeholders. (see section C);
3. Be *economically viable* and *financially sustainable* in that the economic rate of return on a project must be acceptable *and* that revenues, subsidies, taxes or levies, concession/ lease revenue, community service obligation payments, carbon credits or any combination of these must be capable of funding capital and operations costs including long-term maintenance and capacity building in the various components of the project (see section D);
4. Be *environmentally sustainable* in that the proposed wastewater treatment system must aim at an improvement of the existing environmental and health conditions *and* that adequate measures will be taken to mitigate any potential adverse environmental impacts of the project (see section E); and
5. Have *sound, transparent governance* arrangements enabling efficient planning, financing, design and construction, commissioning, and operation of the project (see section F).

B. Developing an Integrated Wastewater Management System

The vision for any city (in Asia) must include an environmentally friendly, low carbon, integrated and inclusive development. To achieve this vision, it is imperative that all wastewater – whether from households, commercial areas, government offices, hospitals, industrial sites or other – is treated properly before entering the natural water bodies that we all depend on. An integrated wastewater management system should typically make use of existing infrastructure (if any) and build on sound visions, policies, strategies and plans, not limited to wastewater management but all sectors that influence the performance of such a system. The proposed investment project must also be based on a sound policy and planning framework (see Appendix 1) and within the relevant regulatory framework. In case the frameworks are not adequate or threaten the successful implementation of the project, the PFS should at an early stage identify the key issues and determine if and how they can be solved.

Based on baseline data and assumptions where data are not available, an overall assessment of the current wastewater management, strengths, weaknesses and areas for intervention, should be made. The PFS should address the following key considerations in an integrated system:

- **Service provision to all**

The provision of sewerage network and the need for it may not be fully comprehended or appreciated by the public, if compared to the obvious nuisance from e.g. lack of waste collection services. The pollution from wastewater to surrounding water bodies is also less visible and more difficult to link to a particular event. However, the collection and treatment of wastewater is vital to the sustainability of the city. The PFS should carefully investigate, as far as possible due to availability of data or other input, current situation as to provision of



services, particularly to marginalized areas. Special attention should be paid to the possible combined storm water/drainage² and sewerage piping network, and the challenges to the system in case of heavy rainfall. The reasons for non-service must be examined and solutions recommended, bearing in mind disaster management and flooding issues. Technical considerations should include additional load to the wastewater treatment plant, but also potential impacts on septic tanks (overflow during flooding), failure at the treatment plant and bypass of non-treated water.

The PFS should also, as far as reasonable, elaborate on the actual load and contributing flows to the common wastewater treatment plant (if any) from industrial sites, hospitals and others that typically should provide their own water treatment facility prior to discharging to the public network.

- **Appropriate technology**

The location and design of a large-scale wastewater treatment plant must naturally be carefully considered for future capacity needs, urban growth patterns and land use in the vicinity. The concept of appropriate technology should be adopted, i.e. the choice of technology can range from large-scale, more conventional plants to small-scale solutions that meet the needs and suit the conditions of the area in question. The choice of technology or system can also depend on visions for renewable energy, green housing, climate change etc.

For wastewater treatment, high-capacity treatment plants are the urban norm, but septic - onsite or decentralized – systems should not be discounted. The installation and use of small-scale systems for domestic wastewater may be more suitable to address rapid and/or partly uncontrolled urbanization, or low density of development and difficulties in cost-recovery. Regardless of the size of the treatment plant, the PFS should strive at maximum resource recovery/reuse, whether it concerns water reuse, energy consumption or nutrients in water or sludge.

- **Coordination with other development**

The wastewater management project(s) proposed in the PFS should be an integrated and logical part of a whole system, i.e. be in harmony with other infrastructure development. For wastewater management, the connected infrastructure – typically consisting of the sewerage network, wastewater treatment plant and sludge disposal site - is a long-term investment in static construction that may be difficult to change or adjust at a later stage. Thus, careful consideration must be made in the PFS to allow for flexibility as far as possible. This would entail for instance, to allow for expansion of the plant to increase capacity or to prepare for connection to the electricity grid to supply energy from biogas production. The siting may also depend on e.g. the urban road network and the existence or plans of a sanitary landfill for the transport and disposal of dewatered sludge. There may be added value through coordination and linkage to rural areas for e.g. utilization of dewatered sludge as fertilizer or reuse of water for irrigation. As far as possible, given the limited timeframe, the PFS must investigate these options and coordinate with the relevant departments as well as other stakeholders and explore possibilities for PPP. The consultants should also investigate if there is any other assistance in the sector. The proposed project must complement other externally or nationally financed interventions.

² See the CDIA Flood and Drainage Management Guideline.



- **Land use**

The proposed wastewater management project must be consistent with land use plans. Special attention should be given to the risk of locating a wastewater treatment plant in an area that may be suitable today but will in a few years be too close to expanding urban areas, new housing development, etc. The possibility of renewable energy production and distribution may also have a bearing on location. Any conflict in land use as well as reduced value of land should be addressed..

Summary

- Review planning and regulatory framework to identify terms or gaps that may hamper the project and recommend approaches for policy to bridge these gaps.
- Identify the necessary building blocks in an integrated system – people’s needs, appropriate technology, land use, human resources, urban road network, housing etc.
- Identify prioritized projects and necessary investments.
- Demonstrate, and quantify where possible, how the proposed project improves the living conditions for people, especially the poor, and the environment.

C. Developing an Inclusive Wastewater Management Project

The basis for an inclusive project would be to identify and invite all stakeholders to actively participate already during the planning process and to make them, particularly the poor, benefit from the project components. Gender aspects are crucial – women and children are more vulnerable to the adverse impacts of pollution such as the contamination of a water source due to lack of proper sanitation. Public awareness should be promoted for water users to understand the implications and risks connected with e.g. discarding hazardous liquid waste into the sewerage system. The role of the private sector as water users and polluters should not be underestimated, and the load on the public sewerage network and facilities must be examined. The overall aim is to develop a sustainable wastewater management system, accommodating all contributing flows and water consumers, accessible and affordable to all with minimal risk of unfounded (investment) decisions and adverse impacts.

The PFS should analyze the following:

- Limitations in land use, urban growth, livelihood and public health due to adverse impacts from the present lack of wastewater handling, and how the project can turn this around.
- New employment opportunities tied to project components, including indirect benefits tied to compost (sludge) sale and renewable energy.
- Likely disruption to communities in terms of a relocation, division, noise, disruption of important visual curtilages of historic and scenic importance - in respect of relocation, the scale and cost of relocation should be estimated along with options for near site resettlement determined (in order to minimize disruption to employment).

Changes to the design should be considered where (a) significant employment access opportunities could be achieved, particularly for low income groups, or (b) significant



reduction in disruption could be achieved. Costs associated with the social impact mitigation measures should be included in the financial assessment (section D below) and the associated management systems should be incorporated into governance arrangements (section F below).

Summary

- Identify stakeholders for consultation at an early stage.
- Identify livelihood issues and design a project that will benefit as many as possible and especially the poor, directly or indirectly.
- Propose a project that will minimize disruption to the community.

D. Ensuring Economic and Financial Viability

1. Economic Assessment

The economic assessment in a wastewater management project should involve estimates of cost savings due to e.g. public health improvement, and other things such as employment (income increase or decrease), and investment opportunities due to more efficient land use and increased tourism. Benefits from reduced carbon emissions should also be elaborated upon into the PFS, adopting proxy values such as where necessary as set out in ADB's Manual for Economic Analysis of Projects. Care should be taken to avoid double counting e.g. health and employment productivity increases. Shadow pricing of costs is standard and follows an established process in each country. Hurdle rates for economic assessment are routinely set by ADB and other agencies in each country. ADB standards should be adopted in the PFS where available.

Summary

- Estimate all benefits of proposed project across all involved sectors.
- Undertake economic assessment using established processes and hurdle rates in the country concerned using ADB standards where possible.

2. Financial Assessment

The primary aim with the financial assessment is to make a realistic assessment, as far as possible, of the project costs in investment and O/M, project revenues and possible financing schemes, either from own sources or external funds. It should be acknowledged that given the early stage in project design, it may be difficult to estimate particularly investment costs. For instance, the site selection and land acquisition may not be finalized or the final choice of technology must be further elaborated in a feasibility study or detailed engineering design study. However, the PFS should include this primary, early assessment as an indication and guidance to both the local government and to potential investors whether it is worth pursuing.

It is vital for the viability of the project to investigate revenue streams for each investment with a direct cost recovery component, whether it is based on user fees or revenues from energy production (e.g. heat exchange or biogas production), water reuse, compost sale etc. The assessment of affordability and willingness to pay on the part of each segment of the market in each investment should be rigorous and well-documented. The possibilities of differentiated fee systems, based upon the polluter-pays principle and financial ability, should be investigated. Equity should be strived at. This is particularly valid for wastewater



management, in which the facilities and network are often taken for granted as a public service with no counter-obligations. The risk of non-compliance in paying user fees and the possible measures should also be discussed.

Existing project cost estimates should be investigated and new solutions, at reduced costs or better performance etc., can be suggested. Costs should be benchmarked against average construction costs in country (preferably), or in like country. Costs should explicitly include social (e.g. relocation) and environmental mitigation measures.

Subsidies, cross-subsidies from leasing of property, community service obligation payments, etc. should be assessed for their sustainability and legal enforceability. CDM for energy efficiency investments, and other credit/subsidies from international agencies should be assessed on the basis of prior experience with like projects and, if necessary, specialist expertise should be engaged³ to provide advice where such funding is crucial to the viability of the project.

The financial assessment should include cashflow, income statement and balance sheet projections of any corporate or SPV entities involved in the financing as well as a standard financial CBA. The hurdle rate adopted for this latter should be the relevant WAC for the sector and country, but where private investors are involved market rates for return in equity and debt should be the benchmark for viability.

In particular, the assessment must include an analysis of the participating (mostly local) government cashflow with project capital expenses and subsidies included to determine the sustainability of the project vis-à-vis the likely revenue streams. Such an analysis should be the basis for discussions about alternate organizational structures for implementation (see section F). For example, PPP models can be used on unbundled, commercially viable, components of projects. Thus, such analysis should be done in a preliminary form early in the term of consultant engagement.

Summary

- Assess project investment and O/M costs, as far and realistically as possible
- Assess revenue generation, both direct and indirect revenue base, and willingness to pay
- Adopt realistic return hurdle rates.
- Assess impact of project on (local governments) budget and use as basis for developing implementation options.
- Provide financial analysis for all relevant organization participants and adopt realistic return hurdle rates.

E. Environmental Issues

Wastewater management projects would typically strive at improving the environmental and health conditions. The PFS should make an assessment of the impacts associated with the present system and how this will change after proposed project implementation. The objective of the proposed PFS interventions is to maximize the positive impacts and minimizing the negative ones, if any.

³ ADB Clean Energy Facility can provide resources for CDM assessments.



Most infrastructure projects would eventually require the preparation of an Environmental Impact Assessment (EIA) as a basis for an environmental permit or similar. At PFS stage, a Rapid Environmental Assessment (REA) or a Rapid Environmental Impact Assessment (REIA) may be required. ⁴It is also vital that the requirements and the timeframe for a full-blown EIA are identified already during the PFS stage to avoid delays in down-stream work as well as unexpected investments costs for environmental protection measures.

In terms of reducing environmental impacts, the process is similar to that adopted for social assessment. (?) The proposed investments and facilities should be screened to determine: (a) potential environmental impacts in terms of noise and pollution to communities; and (b) potential impacts on water resources, forest resources, biodiversity, etc. as set out in ADB's environmental checklist.⁵ Mitigation measures should be formulated and costed. The implications of these measures should be included in the financial assessment (see section D) and governance arrangements (section F) of the project. This includes the assessment of any positive or negative impacts related to climate change, e.g. renewable energy production from water/sludge and emissions of greenhouse gases.

Summary

- Identify the relevant environmental regulatory framework and its implications on project implementation
- Estimate the environmental and health improvement expected from the proposed project
- Estimate the possible environmental and health related risks and impacts connected to the proposed project and costs for mitigation of the same
- Investigate possibilities to reduce CHG emissions or minimize the risk of increased emissions (mitigation) and if the project is part of adaptation measures.

F. Governance Arrangements

The institutional arrangements for implementation of the project must be clearly described and agreed with the client government. At base, the ability to successfully implement wastewater management projects including achieving social and environmental benefits; avoiding and mitigating adverse impacts and achieving financial sustainability, depends on a sound governance structure.

The PFS must include the following:

- (a) discussion of organizational options for design, construction/commissioning and operation, including the possibility of PPP options. Where such options are pursued, the organization structure for transparent oversight, monitoring and regulation of private operations needs to be considered. A monitoring system with clear and measurable key performance indicators must be discussed. In terms of services integration, the arrangements for coordination across sectors and facility providers need to be described. Stakeholders must be involved at an early stage, and their continued influence and input should be secured and institutionalized for the whole project period.

⁴ ADB REA Checklists for categorization of the Project

⁵ ADB Environmental Guidelines, 2003



- (b) consideration of how, and with what incentives, will the existing institutions and stakeholders change to the proposed arrangements
- (c) consideration of the legal basis of each involved organization, its sources of revenue and responsibilities for expenditures (the two must match), and the hierarchy of authority across organizations (the legal basis of coordination).

For wastewater management projects, factors such as good governance in terms of particularly discipline in the system performance and the public's (and all other water users') awareness and collaboration are vital. Connection fees may be more difficult to justify compared to e.g. water tariffs for drinking water supply, where the lack of such service has immediate, detrimental effects. Possible resistance to development of infrastructure (not-in-my backyard) cannot be ruled out mainly due to smell nuisance from a wastewater treatment plant or sludge disposal site.

Summary

- Design of institutional arrangements must be thoroughly documented encompassing the legal and financial basis of sustainable operation.
- A clear description of how we get from where are now to the proposed arrangements is required.

G. Institutional Strengthening

The PFS Team must at an early stage in the project 1) identify and assess the valid regulatory framework for wastewater treatment, emission parameters, handling of wastewater sludge, landfilling and other aspects relevant to the TOR 2) identify the legally appointed actors in the wastewater area as well as the actual operators and stakeholders. Note that the institutional strengthening as well as the overall sustainability of the project could be benefited by a closer inter-departmental interaction, e.g. a better coordination between the offices of City Planning, City Engineering and General Services.

The Client shall then, supported by the PFS Team, design a reference group or other structure and a communication strategy to ensure participation by the key stakeholders throughout the whole Project period. Such a process will improve institutional capacity by fostering dialogue, joint priority setting, and coordinated approaches to investment. The closer dialogue will enable faster and more accurate fact-finding and a possibility (for the local government) to elaborate on a better internal structure including the extension of the lifetime of the reference group after the finalization of the Project.

H. Capacity Development

The PFS must identify all stakeholders and their respective responsibilities as well as present and potential capacity in the wastewater management area and suggest a capacity development program that will match proposed projects and measures. The overarching goal is to create a sustainable system and ensure that investments in the sector are properly handled. This includes e.g. technical and environmental expertise with operational staff, but also ability to manage and monitor the operation, especially in a PPP setup.

The function of the system is also dependent on the water users' knowledge and level of responsibility, thus public awareness and training of industrial users (if applicable) are crucial activities. Coordination between the local government and/or the private operation and



international or national non-governmental organizations (NGOs) can give synergies and a better impact.

The PFS team should explicitly plan activities for capacity development and training, designed and conducted to address the local situation and needs, during the pre-feasibility study as well as part of a future capacity development program.

I. Conclusion

Although a pre-feasibility study financed by CDIA will not support urban planning studies, the pre-feasibility study may help cities to concretize its city development vision, to examine alternatives to solve its wastewater management problems, and to recommend investments for further feasibility study and/or implementation.

The criteria for a successful CDIA PFS, derived from the above, can be summarized as:

- *Technical effectiveness*- the extent to which proposed investments solve the wastewater management goals of a city and satisfy the needs of the people;
- *Impact* - the extent to which the investments impact, positively or negatively, the livability of the area, efficiency of land use, the local economy, air, soil and water, nearby natural resources, energy, the urban transport network and access to services, etc.;
- *Cost effectiveness* – the extent to which the costs of the investments are commensurate with their benefits;
- *Financial sustainability* – the extent that funds required to build and operate the preferred options are likely to be available and affordable; and
- *Equity* – the costs and benefits of the alternatives are distributed fairly across different population groups.

SOLID WASTE MANAGEMENT GUIDELINES

for CDIA PRE-FEASIBILITY STUDIES



A. Introduction

CDIA Sectoral Guidelines are designed to provide a description of the general approach to prefeasibility studies (PFS) in the sectors most commonly encountered in CDIA support to cities. They are not meant to replace Terms of Reference (TOR) or to provide detailed technical input for consultants – who are assumed to be qualified and experienced professionals in their field and thus technically capable.

1. Context

This Solid Waste Management Guideline is assumed to be utilized in the context of existing policies, visions, plans and studies pertaining to this area and other related issues.

It may apply to the carrying out of a prefeasibility study for a project or group of projects (herein after referred to as 'the Project') following previous policies or plans and prioritized for implementation by the local government or other relevant authority.

This guideline is one sector-specific appendix to the overarching CDIA Guidelines for PFS Studies¹, which sets out the format, process and output requirements in general. This will not describe the planning process for solid waste management planning, but only indicate (Appendix 1) the PFS role in relation to the city development plan and assist the consultant to determine where some 'infill' work may be needed. This guideline addresses the approach expected of consultants engaged at the PFS stage and addressing solid waste management issues.

2. Objective

The objective of CDIA support to the formulation of any solid waste management project is to *enhance the impact, sustainability and inclusiveness of the project*. This means that the project should:

1. Comprise a viable component of *integrated solid waste management*, including a holistic approach to provision of services and infrastructure, institutional capacity,

¹ See CDIA "Guidelines for Pre-Feasibility Studies" 2010



environmental and social concerns, economic and financial systems (see section B);

2. Be *inclusive* in the sense that stakeholders should be involved 1) to ensure a tailor-made and sustainable solid waste management system, accessible and affordable to all regardless of income level, education, gender etc. in the targeted areas 2) to minimize the risk of unfounded (investment) decisions and adverse impacts. Any risk of negative impact should be clearly communicated and measures taken to adequately compensate stakeholders. (see section C);
3. Be *economically viable* and *financially sustainable* in that the economic rate of return on a project must be acceptable *and* that revenues, subsidies, taxes or levies, concession/ lease revenue, community service obligation payments, carbon credits or any combination of these must be capable of funding capital and operations costs including long-term maintenance and capacity building in the various components of the project (see section D);
4. Be *environmentally sustainable* in that the proposed solid waste management system must aim at an improvement of the existing environmental and health conditions *and* that adequate measures will be taken to mitigate any potential adverse environmental impacts of the project (see section E); and
5. Have *sound, transparent governance* arrangements enabling efficient planning, financing, design and construction, commissioning, and operation of the project (see section F).

B. Developing an Integrated Solid Waste Management System

The vision for any city (in Asia) must include an environmentally friendly, low carbon, integrated and inclusive development. To achieve this vision, proper solid waste management is one central component. The introduction of an integrated solid waste management system must make use of the existing infrastructure and build on sound visions, policies, strategies and plans, not limited to waste management but all sectors that influence the performance of such a system. The proposed investment project must also be based on a sound policy and planning framework (see Appendix 1) and within the relevant regulatory framework. There should be a user-friendly approach, where the system is developed to meet the needs of people rather than focusing on the investment in advanced infrastructure as such. In case the frameworks are not adequate or threaten the successful implementation of the project, the PFS should at an early stage identify the key issues and determine if and how they can be solved.

Based on baseline data and assumptions where data are not available, an overall assessment of the current solid waste management, strengths, weaknesses and areas for intervention, should be made. The PFS should address the following key considerations in an integrated system:

- **Service provision to all**

Waste collection services are vital to all and the PFS should carefully investigate, as far as possible due to availability of data or other input, the true provision of services, particularly to marginalized areas. The reasons for non-service must be examined and innovative solutions including alternative, tailor-made systems and cooperation with e.g. the informal sector, NGO/CBOs and private sector should be encouraged.



The PFS should also, at least to some extent, study the mechanisms for waste collection and handling of waste from the private sector, hospitals and other waste generators that are not part of the local (client) government's responsibility.

- **Appropriate technology**

The solid waste management project(s) proposed in the PFS should not be an isolated solution to a single problem, but be an integrated and logical part of a whole system, including the whole chain of events from the source to final treatment or disposal. Emphasis should also be put on the operation and maintenance of such a system, both in provision of funds and human resources, to ensure the sustainability of the project. The concept of appropriate technology should be adopted, i.e. this can include promotion of new, available technology but also low-tech, labor-intensive solutions that meet the needs and suit the conditions of the area in question. The choice of technology or system can also depend on visions for renewable energy, green housing, climate change etc.

- **Coordination with other development**

The solutions selected must also be coordinated with other infrastructure and development plans. For solid waste management, it is particularly vital to investigate the urban road network and conditions and how this will be developed or upgraded. The existence or plans of a wastewater treatment plant, for domestic or industrial effluents, will also have a bearing on decisions regarding e.g. the siting of new landfill or a biodigester. As far as possible, given the limited timeframe, the PFS must investigate these other plans and coordinate with the relevant departments as well as other stakeholders. Coordination with the private sector can lead to a mutual beneficial use of existing or planned infrastructure. By inviting the NGO/CBO and informal sector, the choice of technology can be better founded, understood and supported. The consultant should investigate if there is any other externally or nationally financed assistance in the sector and complement it.

- **Land use**

Strategic planning and the proposed projects in solid waste management must be coherent with land use plans for at least the next 15 years or more. Special attention should be given to the risk of locating e.g. a landfill or other waste treatment facility in an area that may be suitable and accessible today but will in a few years be too close to the expanding urban core, new housing development, an airport etc. Any conflict in land use as well as reduced value of land should be addressed and the proposed projects should be clearly presented, preferably with GIS, for clarity.

Summary

- Review planning and regulatory framework to identify terms or gaps that may hamper the project and recommend approaches for policy to bridge these gaps.
- Identify the necessary building blocks in an integrated system – people's needs, appropriate technology, land use, human resources, urban road network.
- Identify prioritized projects and necessary investments.
- Demonstrate, and quantify where possible, how the proposed project improves the living conditions for people, especially the poor, and the environment.



C. Developing an Inclusive Solid Waste Management Project

The basis for an inclusive project would be to identify and invite all stakeholders to actively participate already during the planning process and to make them, particularly the poor, benefit from the project components. Gender aspects are crucial – women and children are more vulnerable to the adverse impacts of pollution, and women being the focal point at the management of waste at household level are also vital to any development herein.² The overall aim is to develop a tailor-made and sustainable solid waste management system, accessible and affordable to all and to minimize the risk of unfounded (investment) decisions and adverse impacts.

The PFS should analyze the following:

- Livelihood tied to waste management activities, particularly informal commercial activity connected to collection of recyclables at source or through scavenging the dumpsites, and how the project will affect this negatively or positively
- New employment opportunities tied to project components and formalization of the informal sector
- Likely disruption to communities in terms of a relocation, division, noise, disruption of important visual curtilages of historic and scenic importance- in respect of relocation, the scale and cost of relocation should be estimated along with options for near site³ resettlement determined (in order to minimize disruption to employment).

Changes to the design should be considered where (a) significant employment access opportunities could be achieved, particularly for low income groups, or (b) significant reduction in disruption could be achieved. Costs associated with the social impact mitigation measures should be included in the financial assessment (section D below) and the associated management systems should be incorporated into governance arrangements (section F below).

Summary

- Identify stakeholders for consultation at an early stage.
- Identify livelihood issues and design a project with alternative designs that will benefit as many as possible and especially the poor, directly or indirectly.
- Propose a project that will minimize disruption to the community.

D. Ensuring Economic and Financial Viability

1. Economic Assessment

The economic assessment in a SWM project should involve estimates of cost savings due to e.g. public health improvement, and other things e.g. livelihood opportunities, more efficient land use and increased tourism. Special attention should be paid to the large informal sector in waste management and its economy. Livelihood issues should not be underestimated, but

² See ADB checklists on involuntary resettlement, indigenous peoples planning, poverty reduction, participation and gender and development.

³ Off site resettlement is to be avoided wherever possible. Potentials for energy efficiency in parallel to the transit development should be assessed in order to provide additional units for resettlement.



different models of engaging people in a comprehensive waste management system should be explored.

Benefits from reduced carbon emissions should also be elaborated upon into the PFS, adopting proxy values such as where necessary as set out in ADB's Manual for Economic Analysis of Projects. Care should be taken to avoid double counting e.g. health and employment productivity increases. Shadow pricing of costs is standard and follows an established process in each country. Hurdle rates for economic assessment are routinely set by ADB and other agencies in each country. ADB standards should be adopted in the PFS where available.

Summary

- Estimate all benefits of the proposed project across all involved sectors.
- Undertake economic assessment using established processes and hurdle rates in the country concerned using ADB standards where possible.

2. Financial Assessment

The primary aim with the financial assessment is to make a realistic assessment, as far as possible, of the project costs in investment and O/M, project revenues and possible financing schemes, either from own sources or external funds. It should be acknowledged that given the early stage in project design, it may be difficult to estimate particularly investment costs. For instance, the site selection and land acquisition may not be finalized or the final choice of technology must be further elaborated in a feasibility study or detailed engineering design study. However, the PFS should include this primary, early assessment as an indication and guidance to both the local government and to potential investors whether it is worth pursuing.

It is vital for the viability of the project to investigate revenue streams for each investment with a direct cost recovery component, whether it is based on user fees or revenues from energy production (landfill/biogas production), recyclables, compost etc. The revenues should also not be exaggerated – e.g. recyclables may disappear before entering the formal system and possibilities to actually sell organic fertilizer (from solid waste) may be limited. The assessment of affordability and willingness to pay on the part of each segment of the market in each investment should be rigorous and well-documented. The possibilities of differentiated fee systems, based upon the polluter-pays principle and financial ability, should be investigated. The risk of non-compliance in paying user fees and the possible measures should also be discussed.

Existing project cost estimates should be investigated and new solutions, at reduced costs or better performance etc., can be suggested. Costs should be benchmarked against average construction costs in country (preferably), or in like country. Costs should explicitly include social (e.g. relocation) and environmental mitigation measures.

Subsidies, cross-subsidies from leasing of property, community service obligation payments, etc. should be assessed for their sustainability and legal enforceability. CDM for energy efficiency investments, and other credit/subsidies from international agencies should be assessed on the basis of prior experience with like projects and, if necessary, specialist expertise should be engaged⁴ to provide advice where such funding is crucial to the viability of the project.

⁴ ADB Clean Energy Facility can provide resources for CDM assessments.



The financial assessment should include cashflow, income statement and balance sheet projections of any corporate or SPV entities involved in the financing as well as a standard financial CBA. The hurdle rate adopted for this latter should be the relevant WAC for the sector and country, but where private investors are involved market rates for return in equity and debt should be the benchmark for viability.

In particular, the assessment must include an analysis of the participating (mostly local) government cashflow with project capital expenses and subsidies included to determine the sustainability of the project vis-à-vis the likely revenue streams. Such an analysis should be the basis for discussions about alternate organizational structures for implementation (see section F). For example, PPP models can be used on unbundled, commercially viable, components of projects. Thus, such analysis should be done in a preliminary form early in the term of consultant engagement.

Summary

- Assess project investment and O/M costs, as far and realistically as possible
- Assess revenue generation, both direct and indirect revenue base, and willingness to pay
- Adopt realistic return hurdle rates.
- Assess impact of project on (local governments) budget and use as basis for developing implementation options.
- Provide financial analysis for all relevant organization participants and adopt realistic return hurdle rates.

E. Environmental Issues

Solid waste management projects would typically strive at improving the environmental and health conditions. The PFS should make an assessment of the impacts associated with the present system and how this will change after proposed project implementation. The objective of the proposed PFS interventions is to maximize the positive impacts and minimizing the negative ones, if any.

Most infrastructure projects would eventually require the preparation of an Environmental Impact Assessment (EIA) as a basis for an environmental permit or similar. At PFS stage, a Rapid Environmental Assessment (REA) or a Rapid Environmental Impact Assessment (REIA) may be required.⁵ It is also vital that the requirements and the timeframe for a full-blown EIA are identified already during the PFS stage to avoid delays in down-stream work as well as unexpected investments costs for environmental protection measures.

In terms of reducing environmental impacts, the process is similar to that adopted for social assessment. The proposed investments and facilities should be screened to determine: (a) potential environmental impacts in terms of noise and pollution to communities; and (b) potential impacts on water resources, forest resources, biodiversity, etc. as set out in ADB's environmental checklist.⁶ Mitigation measures should be formulated and costed. The

⁵ ADB REA Checklists for categorization of the Project

⁶ ADB Environmental Guidelines, 2003. ADB Safeguard Policy Statement (SPS) 2009, for environment, involuntary resettlement, and Indigenous Peoples.



implications of these measures should be included in the financial assessment (see section D) and governance arrangements (section F) of the project. This includes the assessment of any positive or negative impacts related to climate change, e.g. waste-to-energy approach and emissions of greenhouse gases.

Summary

- Estimate the environmental and health improvement expected from the proposed project
- Estimate the possible environmental and health related risks and impacts connected to the proposed project and costs for mitigation of the same
- Investigate possibilities to reduce CHG emissions or minimize the risk of increased emissions (mitigation) and if the project is part of adaptation measures.

F. Governance Arrangements

The institutional arrangements for implementation of the project must be clearly described and agreed with the client government. At base, the ability to successfully implement solid waste management projects including achieving social and environmental benefits; avoiding and mitigating adverse impacts; and achieving financial sustainability, depends on a sound governance structure.

The PFS must include the following:

- (a) discussion of organizational options for design, construction/commissioning and operation, including the possibility of PPP options. Where such options are pursued, the organization structure for transparent oversight, monitoring and regulation of private operations needs to be considered. A monitoring system with clear and measurable key performance indicators must be discussed. In terms of services integration, the arrangements for coordination across sectors and facility providers need to be described. Stakeholders must be involved at an early stage, and their continued influence and input should be secured and institutionalized for the whole project period.
- (b) consideration of how, and with what incentives, will the existing institutions and stakeholders change to the proposed arrangements
- (c) Consideration of the legal basis of each involved organization, its sources of revenue and responsibilities for expenditures (the two must match), and the hierarchy of authority across organizations (the legal basis of coordination).

For solid waste management projects, good governance and strong, long-term leadership pledge is crucial considering that e.g. a landfill is often designed for a period of 30 years and needs monitoring for another 30 years. Fee collection (willingness-to-pay) and resistance to development of infrastructure (not-in-my backyard) are politically sensitive issues that will demand a good approach and responsible management of both project implementation and long-term operation.



Summary

- Design of institutional arrangements must be thoroughly documented encompassing the legal and financial basis of sustainable operation.
- A clear description of how we get from where are now to the proposed arrangements is required.

G. Institutional Strengthening

Solid waste management is an area where there are many actors in the public and private sector as well as NGO/CBO, academe etc. The PFS Team must at an early stage in the Project 1) identify and assess the valid regulatory framework for solid waste and possibly also wastewater sludge, industrial by-products, hazardous waste and other aspects relevant to the TOR 2) identify the legally appointed actors in the SWM area as well as the actual operators and stakeholders in the whole solid waste chain – from the source to final disposal. Note that the institutional strengthening as well as the overall sustainability of the Project should be benefited by a closer inter-departmental interaction, e.g. a better coordination between the offices of City Planning, City Engineering and General Services, as well as dialogue and synergies with external players.

The PFS team shall assist the Client to design and form a reference group or other structure and a communication strategy to ensure participation by the key stakeholders throughout the whole Project period. Such a process will improve institutional capacity by fostering dialogue, joint priority setting, and coordinated approaches to investment. The closer dialogue will enable faster and more accurate fact-finding and a possibility (for the local government) to elaborate on a better internal structure including the extension of the lifetime of the reference group after the finalization of the Project.

H. Capacity Development

Capacity development – on all levels from the top administration or governance level to household level in informal settlements – is crucial in solid waste management.

The PFS must identify all stakeholders and their respective responsibilities as well as present and potential capacity in the SWM area and suggest a capacity development program that will match proposed projects and measures. This includes enhancing the skills in handling and monitoring an external operator in a PPP setup. The overarching goal is to create a sustainable system and ensure that investments in the sector are properly handled.

In many Asian cities, a number of international or national non-governmental organizations (NGOs) are active in public awareness programs or other capacity development. Although this is generally commendable and useful from an educational point-of-view, these activities are often isolated events and seldom coordinated with e.g. the local government programs on a long-term basis. The PFS Team should strive to identify these actors and stimulate dialogue between NGOs, government and private sector to ensure a common understanding and basis for action.

The PFS team should explicitly plan activities for capacity development and training, designed and conducted to address the local situation and needs, during the pre-feasibility study as well as part of a future capacity development program.



I. Conclusion

Although a pre-feasibility study financed by CDIA will not support urban planning studies, the pre-feasibility study will help cities to concretize its city development vision, to examine alternatives to solve its solid waste management problems, and to recommend investments for further feasibility study and/or implementation.

The criteria for a successful CDIA PFS, derived from the above, can be summarized as:

- *Technical Effectiveness*- the extent to which proposed investments solve the solid waste related issues and satisfy people's needs in a city ;
- *Impact* - the extent to which the investments impact, positively or negatively, the livability of the area, efficiency of land use, the local economy, nearby natural resources, air quality, energy, the urban transport network and access to services, etc.;
- *Cost effectiveness* – the extent to which the costs of the investments are commensurate with their benefits;
- *Financial sustainability* – the extent that funds required to build and operate the preferred options are likely to be available and affordable; and
- *Equity* – the costs and benefits of the alternatives are distributed fairly across different population groups.