Final Report

Assessment of the Institutional Environment of the Environmental Infrastructure Unit

Recommendations for Operational Guidelines, Staffing, and Technical Assistance and Training

Prepared for:

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ACRONYMS

ADB	Asian Development Bank
A.I.D.	U.S. Agency for International Development
BOO	Build-Operate-Own
BOT	Build-Own-Transfer
CFED	Center for Financial Engineering in Development
DFCC	Development Finance Corporation of Ceylon
EIU	Environmental Infrastructure Unit of SIDI
GSL	Government of Sri Lanka
HG	A.I.D.'s Housing Guaranty Loan Program
IBRD	International Bank for Reconstruction and Development (the World Bank)
IDA	International Development Association
LLDF	Local Loans and Development Fund
MHC	Ministry of Housing and Construction
MLG	Ministry of Local Government
NDB	National Development Bank
NWSDB	National Water Supply and Drainage Board
ODA	Official Development Assistance
O&M	Operation and Maintenance
PPI	Promotion of Private Infrastructure Project
Rs.	Rupees, the Currency Unit Official Exchange Rate: Rs. 48 = U.S. $1
SIDI	Secretariat for Infrastructure Development and Investment of the Ministry of Policy Planning and Implementation
SMI	Small and Medium Industrial Loan Scheme

UDA	Urban Development Authority of the Ministry of Local Government
USAID/Sri Lanka	A.I.D. Mission to Sri Lanka

EXECUTIVE SUMMARY

Background

Sri Lanka's infrastructure, particularly its "urban environmental" infrastructure (e.g., water supply, wastewater treatment, and solidwaste management), is outdated and deteriorating. To maintain economic growth and achieve development targets, the country's overall infrastructure, and especially its urban infrastructure, must be upgraded and expanded. Since this puts the population's well being in jeopardy, especially that segment of the population below the median income, projects in urban environmental infrastructure warrant a high priority. The costs associated with such an undertaking, however, are enormous and far exceed the resources available to the Government of Sri Lanka (GSL), even with bilateral donor and international lending agency support.

Recognizing these needs, the U.S. Agency for International Development's (A.I.D.) Mission to Sri Lanka (USAID/Sri Lanka) began implementing the Promotion of Private Infrastructure (PPI) Project in 1992. The PPI Project will provide U.S. $8 million in grant funds over a four-year period to assist the GSL in developing a market to attract private financing, construction, and management for potable water supplies, wastewater treatment facilities, roads and transportation, power plants, and other infrastructure facilities through Build-Own-Operate (BOO), Build-Operate-Transfer (BOT), and similar joint-sector undertakings. The GSL has demonstrated its interest in and commitment to private provision of infrastructure through BOO/BOT and other joint-sector variants.

The PPI Project funds technical assistance, training, and feasibility studies in support of four project components:

1. Private infrastructure networking
2. Public awareness
3. Marketing
4. Private-sector financing window

Components 1 though 3 will assist the GSL in key areas of policy development, project identification, consumer education, and investor marketing. The financing window, on the other hand, seeks to encourage unsolicited proposals from the private sector for investment in Sri Lanka's infrastructure.

A more significant objective of the financing component is to increase domestic and offshore financial participation in joint-sector infrastructure through the

establishment of a Private Sector Infrastructure Development Fund (PSIDF). The fund's purpose will be to overcome the current lack of long-term financing necessary for infrastructure projects to succeed. To fill this financing gap in the near term, a recently approved PPI amendment will make available up to U.S. $30 million in Federally Guaranteed Loans through A.I.D.'s Housing Guaranty (HG) program. The National Development Bank has been identified as an appropriate institution to manage a private "Environmental Account" that HG resources initially will capitalize. HG disbursements will be linked to policy reforms that improve the financial and economic viability of infrastructure projects. As such, these resources will help to promote supportive GSL policies with respect to public/private infrastructure development; facilitate a greater number of environmental infrastructure transactions by providing matching funds for private investment in the environmental infrastructure subsector; and serve as a prototype for an expanded, multi-donor-funded PSIDF.

The amended PPI Project also calls for the mobilization of an Environmental Infrastructure Unit (EIU) within the Secretariat for Infrastructure Development and Investment (SIDI) of the Ministry of Policy Planning and Implementation. The EIU's function will be to help successfully implement the PPI Project's urban environmental infrastructure component.

Objective of this Assessment

This assessment's objective is to describe and analyze the overall economic, financial, and legal parameters within which the proposed EIU must work to become a sound, self-sustaining, and effective entity within SIDI that successfully mobilizes support for joint-sector partnerships in the development of environmental infrastructure and municipal services.

Specifically, this document is intended to describe the institutional parameters of the environmental infrastructure subsector, to identify key institutional issues and constraints that will affect the mission of the EIU, and to recommend operating guidelines and staffing requirements for the EIU. In addition, the assessment will identify and recommend priority actions for the new EIU to take. These priority actions will be evaluated for feasibility and appropriateness for achieving the objectives of the HG component of the PPI Project vis-à-vis joint-sector development of environmental infrastructure.

Key Findings and Conclusions

The assessment's findings and conclusions are organized below around the specific topics specified in the scope of work USAID/Sri Lanka approved. These topics also serve as the basis for defining sections in the assessment document. The following are the salient findings and conclusions of the assessment:

1. Public Institutions and the Provision of Environmental Infrastructure

Responsibilities for water supply and sanitation rest with a number of GSL ministries, departments, corporations, boards, and local governments, while solidwaste management is the exclusive domain of the local authorities. For water supply and sanitation services, this has resulted in a dispersal of authority, partial overlapping of responsibilities, and difficulties in achieving uniform standards. The two most important organizations for the development and maintenance of water supply and sanitation services, especially in urban areas, are the National Water Supply and Drainage Board (NWSDB) and the municipal councils.

The NWSDB is the leading institution in the development of all urban and rural piped water supply schemes, urban sewerage schemes, and rural non-piped water supplies based on drilled wells. The distribution and operational aspects of a large proportion of schemes have been the responsibility of the local authorities, although the NWSDB has assumed increasing operational responsibilities in recent years.

No fixed structure for responsibility for water supply exists at the municipal level. In some cases, the local authority is totally responsible for all works, while in others the full responsibility lies with the NWSDB; there is a tendency, however, towards the NWSDB being responsible for headworks, with the local authority looking after the operations and maintenance (O&M) of the distribution system, sale of water to consumers, and billings and collections.

Most local authorities have placed considerable emphasis on ensuring that the majority of the population has access to safe sanitation facilities. None of the urban areas outside of Colombo has a sewer system; the most common sanitation technology is the twin-pit, water-sealed latrine, while middle-income households and most institutions commonly use septic tanks.

Solidwaste, while still a problem in Colombo and other urban areas, is being managed reasonably well by a number of local authorities. All local authorities visited during this consultancy realized the importance of effective solidwaste management. The municipal markets and core urban areas usually receive daily

refuse collection and sweeping, while residential areas are usually covered at least once or twice a week. In some urban areas, however, residents are required to dispose of solidwaste themselves. Nearly all of Sri Lanka's urban areas have solidwaste disposal sites, although most are considered unsatisfactory.

2. *Central Government Service Delivery*

Water Supply

Levels of service in terms of quantity, quality, reliability, and accessibility vary widely in Sri Lanka, and expansion of coverage in the water sector is a key feature of the NWSDB's corporate plan. Actions are currently underway to rehabilitate existing water schemes and to construct new schemes, particularly in the country's urban areas, so more customers can be served. Rehabilitation of existing handpumps and construction of additional handpump wells are underway in the dry zones to further the board's objective of expanded coverage.

Domestic, commercial, industrial, and institutional demands for water in larger urban areas—as well as in the tourist areas of Sri Lanka—are increasing, and BOT schemes for expanding net supply are a logical choice in an environment of limited public resources. Distortions in the financial sector currently offer relatively unattractive rates of return for private investors in BOT schemes in the water sector. Furthermore, the growing gap between income and expenditure in the supply of water outside of Colombo requires varying degrees of subsidization. A crucial unknown variable at this time is whether the GSL, the NWSDB, or a municipality will be able to guarantee a subsidized revenue stream to service the commercial debt in any joint-sector involvement in water supply systems.

Sanitation

Only Colombo has a sewerage system, with approximately 80 percent of its housing units and commercial establishments currently connected. This compares to about 45 percent a decade ago. The NWSDB maintains Colombo's water-borne sewerage system, which consists of pumping stations and ocean outfalls; wastewater treatment is not provided.

Solidwaste

Solidwaste management is the exclusive domain of the local authorities.

3. *Resource Mobilization and Fiscality—NWSDB*

Development Planning

USAID/Sri Lanka-funded advisors have assisted the NWSDB in upgrading the planning and monitoring of the board's investment program. Although this has led to progress in resolving difficult issues, the management information system NWSDB employs lacks reliable estimates and projections regarding field operations.

Budgeting

The introduction of performance budgeting has drastically improved cost control and overall management effectiveness within the NWSDB.

Financial Management Systems

NWSDB's in-house, microcomputer-based billing system has produced impressive results in reducing the billing lag time. Since the NWSDB is aware that simply improving billing systems does not increase collections if service does not improve as well, the board has pursued parallel interventions in the area of service improvement and consumer relations. It has also paid close attention to cost containment, thereby lessening the severity of future water price increases.

Resource Mobilization

Central government capital grants serving as counterpart funds for the use of foreign aid largely finance capital expenditures for the expansion of the NWSDB's asset base. A portion of the counterpart funds the GSL provides the NWSDB are in the form of long-term loans with very concessional interest rates.

Cost Recovery Mechanisms

During the 1980s, the NWSDB's financial situation deteriorated; the ever larger operating deficits and the board's escalating subsidy requirements for offsetting them began draining the central government. With USAID/Sri Lanka's assistance, however, the NWSDB improved its cost recovery measures and its operating efficiency. By 1991 the NWSDB achieved its first net surplus, revenue from

customer billings at end-1992 was up by more than 300 percent over 1988 levels, and actual collections amounted to 94.5 percent of billings.

Although the NWSDB is also responsible for Colombo's wastewater disposal, it does not use cost recovery pricing of user fees to pay for this service. NWSDB and Colombo Municipal Council officials said efforts to extend the cost recovery principle from water provision to wastewater elimination and solidwaste collection and disposal is meeting public resistance among lower-income households. To offset such resistance, the investment planning process for future sanitation and solidwaste services must take into account opportunities to cross subsidize lower-income households with commercial, industrial, and institutional users.

Contracting

The procedures for tendering and contracting are quite ponderous and require a Cabinet-appointed committee to deal with tenders above Rs. 5 million (±U.S. $104,200). The regulations stipulate that in general a tender board should accept the lowest tender satisfying all conditions, specifications, etc. of tender. The personal approval of the permanent secretary of the relevant ministry is required to accept a tender that is not the lowest.

4. Resource Mobilization and Fiscality—the Municipal Councils

Development Planning

Although the GSL provides a town planner to each municipal and most urban councils, it appears local authorities have developed few true development plans. Planners encountered at the local authority level possess limited previous experience and do not appear to have the capacity to carry out relatively sophisticated planning activities nor to identify, prioritize, and justify development projects in general and environmental infrastructure projects in particular. The PPI Project should provide technical assistance and training to improve the capability of the town planners vis-à-vis environmental infrastructure project planning.

Budgeting

In the case of solidwaste collection and disposal, for example, municipal budgets provide ample detail with regard to actual and projected expenditures. But revenues to offset such expenditures are not apportioned from the municipal general fund either in the budget or in the financial statements. This precludes an

assessment of the true cost of service delivery and the requisite sources of revenue to sustain such delivery. Without an autonomous, reliable source of funds, the sanitation department (and other services) is obviously forced to operate in an environment where monies are dependent on irregular collection cycles and compete with demands from other municipal activities.

Financial Management Systems

A review of municipal financial records revealed an inability to identify revenue streams for key municipal services, such as solidwaste management. This suggests a questionable prospect of prompt payment for services rendered and does not serve as a positive signal to engender private participation in the provision of municipal services. A considerable effort is needed to bring municipal accounting to a current basis and improve public accountability. The PPI Project's technical assistance and training component should be employed to promote efficiency in the administration of local taxes and charges.

Local Resource Mobilization

Pursuant to the Municipal Councils Ordinance, municipalities are authorized to collect a variety of rates and taxes and can enact by-laws pursuant to the charging, levying, and recovery of fees and monies for services. In practice, however, conservative estimates hold the rates down, and percentage rate levies are restricted. This creates a situation for local authorities in which existing standards are difficult to maintain in the face of escalating costs, and improvements are largely infeasible. Such a practice seriously undermines the initiative and the financial viability of local government and increases its dependence upon the GSL's financial assistance.

To supplement resources raised through rates and taxes, Sri Lanka's municipal councils are authorized to borrow money by the Municipal Councils Ordinance. Statute limits the amount of borrowing to ten times the fair average annual income that a council receives from all sources of revenue for the preceding five years. Purposes for which money may be borrowed include the following:

- Development of public works or services
- Acquisition of land and/or plant and equipment in connection with such works or services

Cost Recovery Mechanisms

Cost recovery by local authorities—expressed by the ratio of fees, charges, and rents to recurrent expenditure—appears to be declining, largely because charges have not increased along with costs. All local authority fees and charges should be reviewed annually when budgets are approved to ensure that service charges are increased at least in line with cost increases.

Contracting

The Municipal Councils Ordinance requires tenders for the "execution or performance of any work or service or for the supply of any articles or materials for a Municipal Council which involves an estimated expenditure of more than one thousand five hundred rupees, or which will or is expected to endure for more than one year." Project procurement needs to follow GSL procurement rules and regulations.

5. *Central Government Financial Assistance to Local Authorities*

Revenue Grants

In recent years local authorities have become increasingly dependent upon the GSL to finance the shortfall between current expenditures and revenue. This is partially attributable to the failure to charge realistic property taxes, the inability to raise other local taxes, and the unrealistic nature of the fees charged for municipal services. The nature of the present grant system, which automatically reimburses local authorities for much of the increase in employee costs that have occurred in recent years, is partially to blame for the current situation. Were the GSL to introduce measures to improve cost recovery and strengthen the property taxation system, much of the need for revenue grants would likely disappear.

Capital Grants

There appears to be no formal system of capital grants for local authorities. Any assistance tends to be provided on an *ad hoc* basis, through the GSL's decentralized budget system. Many of these funds are used in the rural areas, however, and urban authorities must either generate internal resources or borrow to cover the cost of capital projects.

Local Loans and Development Fund

Municipalities are eligible for a limited pool of resources from the Ministry of Local Government's Local Loans and Development Fund for both revenue-generating projects and for social infrastructure.

6. *Personnel Issues: Qualifications and Skills*

National Water Supply and Drainage Board

Although competitive salaries in private industry and overseas employment continue to strain NWSDB's ability to recruit and retain competent staff, the problem is not as acute as it was during the 1980s. The NWSDB maintains an active staff training program based on a strategy of training of trainers, on-the-job training, and the extensive use of other training resource centers available in Sri Lanka. The basic management competence of middle managers and supervisors has improved considerably.

Local Governments

The town planning officer, the municipal engineer in charge of public works, the medical officer charged with overseeing solidwaste management, and the municipal accountant responsible for budgeting and financial management are among the municipal staff crucial to the success of joint-sector environmental infrastructure development and with whom the EIU personnel will have to work to identify and promote particular environmental infrastructure projects. Field observations indicate that for the most part municipal technical and administrative staff carry out their responsibilities with only basic skills apparently learned on the job. Here again, the PPI Project can provide needed technical assistance and training for upgrading or supplementing the skill levels of these key local staff.

7. *Potential Private-Sector Financing of Eligible Projects*

Although Sri Lanka's financial institutions are relatively diverse and sophisticated, insufficient access to term savings, lack of a secondary market in debt instruments, and virtually no market-determined pricing of longer-dated public securities make it difficult for private entrepreneurs to obtain domestically funded term loans. Compounding the term issue is the limitation on the amount of resources that can be mobilized domestically for any given project. On the basis of limited study, it appears that the rupee equivalent of U.S. $10 million is the

maximum domestic syndication available for any one project at this point in time. The availability of foreign loan syndications are a function of the overall climate for investment in Sri Lanka.

Until the ongoing reform process revitalizes longer-term lending, it appears that municipal solidwaste services—with their inherent lower economies of scale, technological simplicity, and moderate investment costs—currently offer the greatest opportunity for privatization and financing with HG resources.

8. *Policy Agenda for the EIU*

The GSL has endorsed a policy promoting public/private partnerships for infrastructure development. Still, the major factors that underpin joint-sector ventures in achievement of the GSL's broad environmental infrastructure goals are largely underdeveloped. These include political commitment, comprehensive planning, financial autonomy, financial accountability, and rights and responsibilities.

These five policy themes are needed to substantively support a broad-based policy agenda and achieve the PPI Project's institutional development objectives in general and urban environmental infrastructure component in particular.

- *Political Commitment*—The single most important component of a privatization strategy is the political commitment to implement it.
- *Comprehensive Planning*—The NWSDB and the municipal councils must begin to view investment in urban environmental services within the context of a comprehensive capital budgeting and planning approach incorporating all elements of the delivery system.
- *Financial Autonomy*—To ensure efficient service delivery on a continual basis, environmental infrastructure requires an autonomous, reliable source of funds.
- *Financial Accountability*—A prerequisite to any privatization plan is a thorough understanding of the true costs of service delivery as well as the magnitude and sources of financing required to sustain it.
- *Public/Private Partnership: Rights and Responsibilities*—Contracting out to private-sector firms for the provision of urban services is a method of privatization that has been most widely used in developing countries. Potential public partners must realize that they run a great risk if they give up too much responsibility and control to private contractors.

9. *Technical Assistance and Training Needs*

A number of technical assistance and training needs at the municipal council level, and to a lesser extent at the NWSDB, have been identified that could significantly strengthen the joint-sector environmental infrastructure development process. In broad categorical terms, these include assistance to promote public support for joint-sector environmental infrastructure projects, formulate investment plans, appraise environmental infrastructure projects, improve administration of local taxes and charges, contract for environmental services with the private sector, and facilitate the government's goals for the sector.

10. *Opportunities for Environmental Infrastructure Provided on a Joint-Sector Basis*

Conversations with five local authorities on their interest in environmental infrastructure services being developed on a joint-sector basis revealed that all five municipalities were interested in some type of public/private partnership for municipal solidwaste services. Two of the municipalities expressed interest in contracting out the rehabilitation and O&M of their water supply systems. One municipality, Colombo, expressed interest in a joint-sector stormwater drainage project.

11. *Framework for Operational Guidelines for the EIU, Expected Outputs, and Recommendations for Staffing*

The EIU should view its mandate as providing municipalities and other public entitities with requisite expertise to promote BOO/BOT and other joint-sector partnerships for the delivery of urban environmental services. To accomplish this, the EIU will be required to guide municipalities and other public entities through a series of important steps enabling them to form viable and successful public/private partnerships for the delivery of sustainable urban environmental services. As such, the EIU's operational guidelines can be delineated as follows:

- Identify community resources and generate support
- Evaluate service needs
- Review available technologies
- Identify expert resources
- Evaluate financing prospects
- Study laws and regulations

- Evaluate business interest and track record
- Consider regional options
- Select and conduct bidding process
- Develop the service agreement

The desired output of the environmental infrastructure component of the PPI Project include, ***inter alia***, effective programs and policies to institutionalize the private sector's provision of urban environmental infrastructure. It is obviously quite ambitious to achieve this output for the entire spectrum of potential environmental infrastructure projects during the relatively limited life-of-project. Nevertheless, by focusing on a subset of potential environmental projects, namely solidwaste management services, this output can be achieved, and the public/private partnership concept can be put into practice; if appropriate, Sri Lankan professionals can be recruited for the EIU in the very near term.

Recommendations

The following recommendations are offered to set appropriate and feasible priorities for the new EIU that achieve the goals and objectives of the environmental infrastructure component of the PPI Project vis-à-vis public/private partnerships in the provision of environmental services.

Recommendation 1

The EIU should adopt the five-point policy agenda described herein in order to focus on the key factors that will underpin any joint-sector initiative in the area of environmental infrastructure.

Recommendation 2

Given the limited time horizon for USAID/Sri Lanka support under the PPI Project, the EIU should focus its early efforts primarily on an area with the greatest opportunity for privatization, namely ***contracting for municipal solidwaste service.*** The key to this relatively uncomplicated public/private partnership is the absence of barriers to entry. Municipal solidwaste service involves low economies of scale, technological simplicity, and moderate investment cost. Nevertheless, in contracting for services of solidwaste collection, the municipality issuing the bids needs to have the competence and authority to develop, negotiate, manage,

monitor, and enforce. Hence, the most highly qualified personnel need to be recruited to staff the EIU for it to be effective in assisting municipalities in developing the requisite competence.

Recommendation 3

Since it is indisputable that public/private arrangements for privatization are highly complicated undertakings, the EIU should be staffed, at a minimum, with a director for environmental infrastructure, a technical advisor, a financial advisor, and a management trainee with the proper mix of background and experience to ensure the success of the EIU's mission. Once hired, the EIU staff should be provided with in-country training in structuring, financing, and implementing public/private partnerships in municipal services and environmental infrastructure.

Recommendation 4

To develop an all-important initial public/private partnership to serve as a magnet for interest in privatization, CFED/SIDI's ongoing efforts in private infrastructure networking (PPI Project Component 1), public awareness (PPI Project Component 2), and marketing (PPI Project Component 3) will need to be quickly integrated into the EIU's mission, and resources will need to be allocated accordingly.

Recommendation 5

The EIU should adopt a specific plan for technical assistance and training incorporating elements detailed in Chapter 4. Since a large number of potential recipients exist for the envisaged technical assistance and training program outlined below, ***priority should be given to those groups whose attitudes regarding public/private partnerships and improved technical skills will be of most benefit to development of joint-sector environmental infrastructure in the very near term.*** Particular attention should be paid to overcoming the virtually universal untrusting relationship between potential public and private-sector partners. In this regard, the main recipients of technical assistance and training in the early stages of the program should be in order of importance municipal leaders, municipal finance officers, and town planners.

ASSESSMENT METHODOLOGY

A development economist with experience in infrastructure finance undertook this assessment. Before arriving in Sri Lanka, the consultant reviewed relevant PPI Project documents belonging to the Washington headquarters of the U.S. Agency for International Development (A.I.D.) institutional contractor, the Center for Financial Engineering in Development (CFED). These included the revised Project Paper, for which the consultant had provided input earlier in the year, and the 1993 Annual Workplan for Technical Assistance and Training. In addition, CFED briefed the consultant regarding the progress of the project, achievements to date, and the project's evolving 1994 Annual Workplan.

The consultant spent three weeks in Sri Lanka benefiting from discussions with the USAID Mission, SIDI, NWSDB, sample municipal councils, and CFED field staff as well as other relevant entities involved in the provision of environmental infrastructure services (e.g., water supply, wastewater treatment, and solidwaste management). The consultant conducted the assessment in Sri Lanka, preparing a draft report for presentation to USAID/Sri Lanka and SIDI before departure.

Based on various PPI Project issues reflected in the scope of work that USAID/Sri Lanka approved, the consultant prepared an interviewing framework for the nearly 20 meetings taking place during the course of the assessment. In Colombo, the consultant interviewed NWSDB operational-level staff to learn about the board's interactions with the municipalities and the evolution of potable water delivery at the municipal level. In Colombo, Galle, Kandy, Nuwara Eliya, and Matara, the consultant met with senior representatives of these jurisdictions' municipal councils to assess their capabilities vis-à-vis joint-sector development of environmental infrastructure projects and to glean perceptions regarding the need for technical assistance and training under the PPI Project.

1

PUBLIC INSTITUTIONS AND THE PROVISION OF ENVIRONMENTAL INFRASTRUCTURE

Government Roles and Responsibilities in Water Supply, Sanitation, and Solidwaste

Responsibilities for water supply and sanitation rest with a number of Government of Sri Lanka (GSL) ministries, departments, corporations, and boards, while solidwaste management is the exclusive domain of local authorities. For water supply and sanitation services, this has resulted in a dispersal of authority, partial overlapping of responsibilities, and difficulties in achieving uniform standards. The two most important organizations for the development and maintenance of water supply and sanitation services, especially in urban areas, are the National Water Supply and Drainage Board (NWSDB) and the municipal councils. In rural areas, the Ministry of Housing and Construction's (MHC) Community Water Supply and Sanitation Unit and the NWSDB are the key organizations, while in the estates sector, the Sri Lanka State Plantation Corporation and the Janatha Estates Development Board are the leading institutions. A brief description of each of the two institutions having significant water supply and sanitation responsibilities in urban areas is provided below. Appendix 1 illustrates the interrelationship of the various organizations within the water supply and sanitation sectors.

Central Government and Municipal Water Supply and Sanitation

The NWSDB is an autonomous body under the MHC that was formed in 1975 out of the Department of Water Supply and Drainage of the former Ministry of Local Government, Housing, and Construction. The NWSDB is the leading institution in the development of all urban and rural piped water supply schemes, urban sewerage schemes, and rural non-piped water supplies based on drilled wells. The distribution and operational aspects of a large proportion of schemes have been the responsibility of the local authorities (e.g., municipal councils, urban councils, and ***Pradeshiya Sabha*** or village councils), although the NWSDB has assumed increasing operational responsibilities in recent years.

As illustrated in Appendix 2, the NWSDB has separate units for planning and design, groundwater development, and training. Operationally, the board oversees eight regional offices at locations throughout the country. Largely due to the

efforts of the A.I.D. Mission to Sri Lanka (USAID/Sri Lanka) to institutionally strengthen and decentralize the NWSDB, the regional offices have achieved financial and operational autonomy together with improved capabilities for field investigations, project design, and logistical supply. During 1992 the NWSDB's decentralization process was further advanced when regional support centres and regional offices were provided additional staff and facilities. Appendix 3 illustrates the organizational structure of the Greater Colombo Regional Service Centre.

Local authorities receive administrative and technical assistance for water supply schemes from the Ministry of Local Government (MLG), while the Ministry of Housing and Construction provides technical assistance in planning. The MLG also provides the administrative channel through which personnel attached to the Local Government Service are made available to municipal and smaller jurisdictional councils (urban councils and *Pradeshiya Sabha*) for council administration, the operations and maintenance (O&M) of water supplies in some of the larger municipal jurisdictions, public works, and sanitation services. Appendix 4 illustrates the organizational structure of the Galle Municipal Council.

Also located within the MLG, the Local Loans and Development Fund (LLDF) provides loans of up to 80 percent of the capital cost to local authorities for "social infrastructure," including equipment for solidwaste management.

Provincial Councils and Municipal Water Supply and Sanitation

The functions and powers of provincial councils are in a transitionary stage given their recent reorganization under the auspices of a recently formed Ministry of Provincial Councils. Indirectly relating to the provision of water supply, sanitation, and solidwaste services at the municipal level, List I of the Ninth Schedule of Article 154A of Chapter XVIIA of the Thirteenth Amendment to the Constitution gives the provincial councils responsibility for:

2. planning—implementation of provincial economic plans;

4. supervision of the administration of local authorities...;

36. ...taxation within the province in order to raise revenue for provincial purposes...;

37. protection of [the] environment within the province...

Article 154R provides for a Finance Commission for the provincial councils with the following functions:

(3) The Government shall, on the recommendation of, and consultation with, the [Finance] Commission, allocate from the Annual Budget, such funds as are adequate for the purpose of meeting the needs of the provinces.

(4) It shall be the duty of the [Finance] Commission to make recommendations to the President as to:

(a) the principles on which such funds as are granted annually by the Government for the use of [the] provinces, should be apportioned between the various provinces.

(5) The [Finance] Commission shall formulate such principles with the objective of achieving balanced regional development in the country, and shall accordingly take into account:

(a) the population of each province;

(b) the *per capita* income of each province;

(c) the need, progressively, to reduce social and economic disparities; and

(d) the need, progressively, to reduce the differences between the *per capita* income of each province and the highest *per capita* income among the provinces.

In addition to these resources, the recently formed Ministry of Provincial Councils is empowered to channel resources from the treasury to the provincial councils for three separate grant accounts:

- An establishment cost grant to cover the administrative costs associated with the functioning of the provincial councils
- A block grant for the financing of provincial-level development projects
- A criteria-based grant to finance provincial council-sponsored development projects

Further research is required to determine whether any of the aforementioned resources available to the provinces could enhance the development of joint-sector environmental infrastructure at the provincial level.

Municipal Councils and Municipal Water Supply, Sanitation, and Solidwaste

Duties of the Municipal Councils

The duties of the municipal council vis-à-vis provision of all municipal services are delineated in the Legislative Enactments of the Democratic Socialist Republic of Sri Lanka, Volume XVII—Local Administration, Chapter 576—Municipal Councils (henceforth, the Municipal Councils Ordinance), §46. "Every Municipal Council shall, ..., have the following duties:

(a) to maintain and cleanse all public streets and open spaces vested in the Council or committed to its management;

(b) to enforce the proper maintenance, cleanliness and repair of all private streets;

(c) to supervise and provide for the growth and development of the Municipality by the planning and widening of streets, the reservation of open spaces, and the execution of public improvements;

(d) to abate all nuisances;

(e) to establish and maintain (subject to the extent of its resources) any public utility service which it is authorized to maintain under this Ordinance and which is required for the welfare, comfort or convenience of the public;

(f) generally to promote the public health, welfare and convenience, and the development, sanitation and amenities of the Municipality."

Responsibility for Water Supply

There is no fixed structure for responsibility for water supply. In some cases, the local authority is totally responsible for all works, while in others the full responsibility lies with the NWSDB. The NWSDB, however, tends to be responsible for headworks, with the local authority looking after the O&M of the distribution system, sale of water to consumers, and billings and collections.

Responsibility for Sanitation

The existing situation in the area of sanitation is encouraging given the fact that most local authorities have placed considerable emphasis on ensuring that the majority of the population has access to safe sanitation facilities. None of the urban areas outside of Colombo has a sewer system; the most common sanitation technology is the twin-pit, water-sealed latrine, while middle-income households and most institutions commonly use septic tanks. Nevertheless, a number of urban areas still employ unhygienic bucket latrines. Those households without sanitation facilities are either squatters or are settled on land that precludes the excavation of pits, such as areas with a high water or rock table.

Responsibility for Solidwaste Management

Solidwaste, while still a problem in many urban areas, is being managed reasonably well by the local authorities. All local authorities visited during this consultancy realize the importance of effective solidwaste management. The municipal markets and core urban areas usually receive daily refuse collection and sweeping, while residential areas are usually covered at least once or twice a week. In some urban areas, however, residents are required to dispose of solidwaste themselves. Nearly all of Sri Lanka's urban areas have solidwaste disposal sites, although most are considered unsatisfactory for a number of reasons.

Central Government Service Delivery

Water Supply

Levels of service in terms of quantity, quality, reliability, and accessibility are widely variable in Sri Lanka. Consequently, statistical averages relating to the type of facility that various sections of the community possess may be misleading if used to illustrate the standard and adequacy of the service provided. However, the figures on service connections provided by the NWSDB for 1989 (the earliest available data regarding service connections) and 1992 serve to indicate in broad outline the present accessibility to water supply and the 33 percent increase in service delivery during the 1989-92 period. Table 1 compares service connections during this period.

Table 1 NWSDB—Comparison of Service Connections in 1989 and 1992

	Number of Connections	
Service Area	**1989**	**1992**
Greater Colombo	117,346	131,891
Kalutara	-	7,732
Kurunegala	5,478	14,461
Matara	16,881	17,932
Hambantota	-	8,592
Ratnapura	8,828	10,252
Bandarawela	2,486	5,387
Kandy	13,167	19,286
Anuradhapura	5,784	8,312
Ampara	3,000	3,929
Trincomalee	723	2,488
Total	**173,693**	**230,262**

Source: NWSDB Annual Reports

Expansion of coverage in the water sector is a key feature of the NWSDB's corporate plan. Actions are currently underway to rehabilitate existing water schemes and to construct new schemes, particularly in the country's urban areas, to serve more consumers. In dry zones, existing handpumps are being rehabilitated and additional handpump wells are being constructed to further the board's objective of expanded coverage.

The GSL is currently in the process of developing a policy framework for continued improvement of water supply and sanitation. Among the laudable elements of the framework is a provision for privatization of certain operations of the NWSDB, including billing and collection, management of unaccounted for water in the greater Colombo metropolitan area, and the implementation of selected new schemes under Build-Operate-Transfer (BOT) and other public/private partnership efforts.

Domestic, commercial, industrial, and institutional demands for water in larger urban area—as well as in the tourist areas of Sri Lanka—are increasing, and BOT schemes for expanding net supply are a logical choice in an environment of limited public resources. Distortions in the financial sector, however, currently offer relatively unattractive rates of return for private investors in BOT schemes in the water sector. Furthermore, the growing gap between income and expenditure in the supply of water outside of Colombo requires varying degrees of subsidization. A crucial unknown variable at this time is whether the GSL, the

NWSDB, or a municipality will be able to guarantee a subsidized revenue stream to service the commercial debt in any joint-sector involvement in water supply systems.

Sanitation

In the area of sanitation, only Colombo has a sewerage system, with approximately 80 percent of its housing units and commercial establishments currently connected. This compares to about 45 percent a decade ago. The NWSDB maintains Colombo's water-borne sewerage system consisting of pumping stations and ocean outfalls; wastewater treatment is not provided. The city's original sewerage system dating back to the colonial era was expanded several years ago with funds provided by an International Development Association (IDA) credit.

Stormwater Drainage

The existing stormwater system in Colombo comprises a network draining either to the city's canals or, on the westward side, directly to the sea. The drainage system—consisting of underground pipes, culverts, and open channels—was largely constructed from 1908 onwards, while the canal system consists largely of unlined channels, detention basins, and control structures. Although four institutions are involved, in varying degrees, in providing surface drainage facilities to the greater Colombo municipal area, the existing drainage system is operated and, to a lesser extent, maintained without any overall planning strategy. Consequently, problems have not always been solved, and in some instances no stormwater drainage facilities have been provided. The traditional construction of side channels to roads provide an effective method of stormwater disposal. In some places, however, these have been covered or filled and no alternative drainage arrangements have been provided. This has resulted in flooding problems and has affected the highway's rehabilitation.

Four organizations are actively engaged in the provision of surface drainage facilities in the greater Colombo municipal area:

- NWSDB, responsible for design and implementation
- Ministry of Highway, responsible for road drainage and maintenance
- Land Reclamation Development Corporation, responsible for canal maintenance and flood control

- Colombo Municipal Corporation, charged with O&M responsibilities

The Land Reclamation Development Corporation comes under the purview of the Ministry of Lands. To meet the clear need for closer coordination of these activities, the GSL has appointed the Urban Development Authority (UDA) of the MHC to chair a coordinating steering committee on stormwater drainage while retaining the existing roles of the various authorities outlined above.

Solidwaste Management

Solidwaste management is the exclusive domain of the local authorities.

Central/Municipal Government Resource Mobilization and Fiscality

NWSDB

Development Planning

During the early 1980s the NWSDB was changed from a government department within the Ministry of Local Government, Housing, and Construction to a public corporation. Its new role demanded that it shift its focus of attention from capital projects to O&M and billing. By 1983, the board's staff had swelled to nearly 6,000, while collections represented only 12 percent of O&M costs, and the number of billed customers to staff ratio was only 8.4 As a result, USAID/Sri Lanka conceived the USAID/Sri Lanka Water Supply and Sanitation Sector Project to reverse operational deficiencies through a comprehensive institution-building exercise to improve investment planning and programming, financial and accounting practices, O&M, commercial activities, and water quality control.

One of the key objectives of this project was to establish an in-house corporate planning process to increase institutional autonomy in policy formulation and, at the same time, reduce reliance on the board's parent ministry for all substantive policy-related decisions. The formation of a corporate planning process was viewed as a key step in the institutionalization of policy formulation. By the project's end in 1991, a highly visible Corporate Planning Division had been established on par with the operations group, which issued a five-year corporate plan for the 1991-1995 period. The plan contains specific medium-term goals and short-term targets in the areas of decentralization, service coverage, O&M, management improvement, and financial issues, particularly with regard to cost recovery and billing/collection targets.

Over the past decade, several long-term expatriate advisors have assisted the NWSDB's senior management in planning and monitoring the board's investment program. Although the internal experience the NWSDB gained from these consultancies has enabled it to make substantial progress toward resolving difficult issues, the management information system it currently uses lacks reliable estimates and projections regarding field operations.

Budgeting

The introduction of performance budgeting has drastically improved cost control and overall management effectiveness within the NWSDB. Actual expenditures from 1988 onward have been less than 3 percent above budget—with the exception 1989's cost overrun, overwhich the NWSDB had no control. It was caused by a GSL-mandated salary increase of about 45 percent, which was announced just before the national elections.

Financial Management Systems

The introduction of an efficient billing and collection system was seen as a fundamental element in improving the financial status of the NWSDB. However, it was recognized that the introduction of improved billing systems alone would not necessarily result in improved collections if the service provided to the consumer did not also improve. During the past several years, parallel interventions have been taking place within the board to improve service and consumer relations with attention also being paid to cost containment, thereby lessening the severity of future water price increases. An in-house microcomputer-based billing system was initially installed in greater Colombo and gradually extended to cover all the regions with the exception of the Northeast. The system has produced impressive results; the billing lag time (time between meter reading and receipt of bill) that had previously averaged 6 months now averages about 30 days.

System of Resource Mobilization

Capital expenditures for the expansion of the NWSDB's asset base are financed largely by capital grants from the central government that serve as counterpart funds for the use of foreign aid. A portion of GSL's counterpart funds provided to the NWSDB are in the form of long-term loans with very concessional interest

rates. Total capital expenditure during 1992 amounted to rupees (Rs.) 2.62 billion, of which Rs. 1.03 billion were counterpart funds and Rs. 1.59 billion represented foreign funds utilization.

Cost Recovery Mechanisms

During the 1980s, the NWSDB's financial situation deteriorated; the ever larger operating deficits and the board's escalating subsidy requirements for offsetting them became a drain on central government. These deficits resulted from the lack of progress in developing consumer revenues and the growing burden of O&M costs caused by the rapid expansion in the board's asset base. Although the NWSDB's financial condition was unsustainable, very little in the way of strengthening the board's financial management capabilities and revenue collection practices was undertaken until 1984 when USAID/Sri Lanka's Water Supply and Sanitation Sector Project was launched. One of the major goals of this project was to radically reform the board's role to be consistent with its corporate status by shifting its focus from capital projects to O&M and consumer billing. Indicators of performance, including collections ratio, billing lag, and the rehabilitation share of the capital budget were considerably higher by the end of the project in 1991.

Among the project's institutional strengthening objectives was a change in the overall organizational structure, meant to change the staff's attitudes and actions to make the board's O&M activities its most important mission. The 1991-1995 corporate plan's financial targets are to cover full operational costs and two-thirds of the debt service the board owes.

As Table 2 demonstrates, considerable progress has been made. By the end of the 1980s, the NWSDB had begun to improve cost recovery measures as well as its operating efficiency. By 1991 the NWSDB achieved its first net surplus after depreciation and debt service (at 66 percent of total). Water tariffs were raised in 1990, 1991, 1992, and 1993 to offset inflation-driven increases in the cost of operations. At end-1992, revenue from water billings and other revenue totalled Rs. 952.9 and Rs. 245.2 million, respectively, for a total of Rs. 1,198.1 million. Revenue from customer billings at end-1992 was up by more than 300 percent over 1988 levels, and actual collections amounted to 94.5 percent of billings. It should be noted, however, that collection totals for a particular year include the collection of arrearages from previous years therefore distorting the actual collection proportions for any given year.

While it is apparent that the NWSDB is making considerable headway toward the achievement of self-sufficiency, much work still needs to be done. As noted

above, actual collections are distorted by payments of arrearages, and the board currently seeks to recover only two-thirds of the debt service on the subsidized loans it has received from the GSL. As such, the NWSDB's current financial performance is not on par with commercial standards, and continued improvements must be made in rationalizing the tariff structure, improving collections, and seeking out further cost reductions through efficiencies.

Table 2 NWSDB—Income and Expenditures from 1988 to 1992 (Millions of Current Rs.)

Category	1988	1989	1990	1991	1992
Total Revenue	323.3	356.7	555.6	1,100.5	1,198.1
Surplus/(Deficit) from Operations	(41.7)	(12.6)	134.0	526.3	546.7
Net Surplus/(Deficit) after Depreciation and Debt Service	(397.4)	(392.5)	(188.2)	209.3	220.7
Collections as a Proportion of Billings	83.6	78.4	83.9	86.6	94.5
Collections as a Proportion of O&M and Debt Service	40.1	32.3	77.0	160.9	176.4

Source: NWSDB Annual Reports

Although the NWSDB is also responsible for Colombo's wastewater disposal, it does not use cost recovery pricing of user fees to pay for this service. NWSDB and Colombo Municipal Council officials articulated public resistance among lower income households to efforts to extend the cost recovery principle from water provision to wastewater elimination and solidwaste collection and disposal. To offset such resistance, the investment planning process for future sanitation and solidwaste services must take into account opportunities to cross subsidize lower-income households with commercial, industrial, and institutional users. It also may also be possible to market the nutrient-rich byproducts of wastewater treatment.

Contracting

The procedures for tendering and contracting are delineated in Chapter XI, Section 1 of the 1966 Financial Regulations as amended (henceforth, the Financial Regulations). As specified in item 686 of §1, "..works and services must, as far as possible, be offered for public competition through the tender procedure...prescribed in the regulations of this section."

§1 of the Financial Regulations prescribes four levels of tendering procedures that are a function of the value of the works, services and supplies (local and foreign) sought:

- When the value does not exceed Rs. 50,000, "minor tenders," can be dealt with by the appropriate departmental staff officer subject to the approval of the Ministerial Department Head;
- For values less than Rs. 2 million, "the Permanent Secretary may, at his discretion, set up one or more Departmental Tender Boards in any of the departments of his Ministry for the purpose of dealing with tenders [of this magnitude]";
- "Ministry Tender Boards" will deal with all tenders for works, services and supplies whose value is between Rs. 2 million and Rs. 5 million; and
- For values exceeding Rs. 5 million,"..a Cabinet-appointed subcommittee is required to deal with such tenders..."

With regard to "Ministry Tender Boards," item 687 of §1 of the Financial Regulations stipulates that "there shall be a tender board in each Ministry comprised of the following individuals: a Chairman, who shall be the Permanent Secretary of the Ministry...; a second member, who shall be the Head of the Department calling for tenders...; a third member who shall be the Superintendent of Stores...; and a fourth member who shall be an officer nominated by the Deputy Secretary to the Treasury..."

The tendering process begins with the approval of tender documents by the tender board. Item 688 of §1 of the Financial Regulations stipulates that "it is the responsibility of the department concerned to submit to the Ministry Tender Board for its approval all documents relating to the calling for tenders...he should forward to the board: *(a)* the tender notice; *(b)* the conditions of tender; *(c)* the form of tender; and *(d)* a departmental estimate of costs; together with a report certifying that there is financial authority for calling for tenders." Upon approval of these documents, the tender board issues a "Tender Notice" published in the *Government Gazette* and approved newspapers (item 693). Item 694 specifies that

the [issuing] department should maintain an office where tender documents can be inspected by or issued to prospective tenderers without delay.

Item 689 and 690 of §1 of the Financial Regulations provide for worldwide tenders in the case of large works, services, or supplies and restricted tenders and quotations in the case of specialized works, services, or supplies, respectively. With regard to the latter, "A tender board may...prepare registers of contractors who are capable of constructing works of specified description, magnitude or value and confine the issue of tender notices to names appearing on these registers. Arrangements should be made to enable contractors whose names are not on the registers to apply to have their names inserted, so that the registers are kept as complete as possible."

With regard to materials and labor, item 691 specifies that "[both] local materials and [local] labor should, as far as possible, be used by departments for the execution of works, the use of imported materials being reduced to a minimum."

Tender and security deposits are required by item 692. Non-refundable tender deposits or payments are required to cover the costs of plans, specifications, tender forms, etc. "...*(a)* Deposits to be made before tender forms are issued, should not be unduly high, consistent with the object of preventing frivolous or irresponsible tendering. *(b)* Deposits or guarantees to be made before the final contract is entered into should be adequate without being excessive. If the deposit is too high, contractors may find it difficult to release the money required or may increase their tenders to cover interest and other charges incurred by them..." Performance security deposits are required by all contractors other than "approved societies"[1] for works undertaken by them.

With regard to the receipt and opening of tenders, item 695 specifies that "(1) Tenders shall be submitted in duplicate on the approved form and should be enclosed in sealed envelopes addressed to the Chairman of the appropriate Tender Board...(5) The tenderers or their representatives should be allowed to be present when the tenders are open...Any tenderer should be permitted, if he so wishes, to examine the duplicate of any tender that has been submitted, so as to verify the amount; but no technical data, specifications and similar particulars should be divulged."

[1] "Approved Societies" for the purpose of tenders are defined by item 698 of the Financial Regulations as: (i) cooperative societies; (ii) cooperative labour societies; (iii) rural development societies; (iv) parent-teacher associations; (v) cultivation committees; and (vi) any other societies specified by the Treasury from time to time.

Item 696 stipulates that "(1) tenders...be scrutinized by both technical and administrative officers [in the Ministry Office or in the department concerned] in order to ensure that the offer is arithmetically correct, complete and in conformity with specifications and other conditions in the Tender Notice and documents. It is the duty generally of the department to make necessary enquiries as to the fitness of the tenderers to carry out works, supplies or services. (6) The Head of the Department will [provide] a report to the Tender Board embodying the following: *(a)* a certificate that funds are available; *(b)* the estimated cost of the work, supply or service; *(c)* a recommendation as to which tender should be accepted; [and] *(d)* if a tender other than the lowest is recommended, the reasons why the lower tenders are not acceptable."

After receipt of the report of the department, the tenders will be considered at a meeting of the Tender Board to be called for the purpose (item 697). "(2) The board shall have power: *(a)* to accept any tender, or portion of a tender; *(b)* to accept portions of more than one tender; *(c)* to reject all or any tenders; *(d)* to apply the provisions of Financial Regulation 698[2]; [and] *(e)* when all tenders have been rejected, or no tenders are received, to direct—*(i)* that fresh tenders be called for; or *(ii)* that departmental arrangements be made for carrying out any works prescribed in the Tender Notice , if facilities are available."

Article (5) of item 697 stipulates that "By and large a Tender Board should accept the lowest tender which satisfies all conditions, specifications, etc. of tender; and, except with the ***personal*** approval of the Head of Department, in the case of tenders not exceeding Rs. 500,000 in value, and of the Permanent Secretary in the case of tenders exceeding that amount, no tender other than the lowest should be accepted; and that too only if such lowest tender satisfies all requirements. When the cost of a supply or service includes a substantial foreign exchange component, the offer of favorable credit terms or a saving in foreign exchange will be an important consideration in regard to the selection of a tenderer. In either case, the acceptance of an offer which is not the lowest, but is otherwise acceptable in all respects is not precluded.

As soon as the final decision of the Tender Board is made, "...the department concerned...must take...necessary steps for the completion of the contract by causing the security required to be lodged and verified in the usual manner, and the [performance] bond signed by the contractor and his sureties (item 700). Item 701 stipulates that "the contract should contain, ***inter alia***, clauses relating to the

[2] Item 698 calls for general preference to the "Approved Societies" defined above. It specifies that "Whenever Approved Societies tender in open competition...they should be allowed preference up to 5 percent over the lowest tender, i.e., if the lowest tender is not from an Approved Society."

following: *(a)* security; *(b)* time for completion; *(c)* liquidated damages for delays; *(d)* the title of the officer authorized to make decisions on the contract; *(e)* the currency and precise method of payment for work done, including monies held back; *(f)* the employment of Ceylonese labour; *(g)* insurance, if any; *(h)* variations of contract; *(i)* procedure including cancellation and forfeiture of deposit if contract is not properly carried out; [and] *(j)* the application of the Laws of Ceylon to the contract."

Municipal Councils

Development Planning

Although the GSL provides a town planner to each municipal and most urban councils, it appears local authorities have developed few true development plans. Planning is a complicated activity involving many people, groups and disciplines if it is to be done well. Planners encountered at the local-authority level possess limited previous experience. They do not appear to have the capacity to carry out relatively sophisticated planning activities or identify, prioritize, and justify development projects in general or environmental infrastructure projects in particular. There appears to be an inordinate amount of time spent developing plans made up of "wish lists" of capital project that bilateral donors and/or international lending agencies might some day fund. Town planner's skills must be developed over time through training and experience.

Budgeting

Pursuant to §211 of the Municipal Councils Ordinance, the mayor of each municipal council is mandated on an annual basis to "submit to the Council a budget containing an estimate of the available municipal income and details of the proposed expenditure for the ensuing financial year." §§212 through 217 provide for the following:

- Budget to be circulated and open to inspection
- Final consideration for closure on the budget
- Provision for a supplementary budget
- Powers of the municipal council with regard to the budget and supplementary budget
- Powers of the mayor with regard to the budget and supplementary budget

- Reduction or increase in level of expenditure
- Lapse of authority for expenditure sanctioned by the budget

The present state of local authorities' finances and scarcity of resources for capital projects do not encourage municipal councils to forward plan capital investment. Capital expenditure projections appear to be simply extrapolations of past trends rather than a representation of planned schemes. The lack of formal arrangements to mobilize financial resources impedes any system of advance project identification and evaluation and their inclusion in rolling programs of capital investment.

All local authorities are required to prepare an annual budget consisting of revenue and expenditure on both recurrent and capital accounts. By law the budget should be balanced by levying sufficient local rates, through the property tax system, to meet the difference between proposed expenditure and income other than rates. Review of the municipal council budgets of Colombo, Galle, Kandy, and Nuwara Eliya and the urban council budget of Matara clearly indicate that in practice this is simply not done. In the case of solidwaste collection and disposal, for example, there is ample detail with regard to actual and projected expenditures, but revenues to offset such expenditures are not apportioned from the municipal general fund either in the budget or in the financial statements. This precludes an assessment of the true cost of service delivery and the requisite sources of revenue to sustain such delivery. Without an autonomous, reliable source of funds, the sanitation department (and other services) is obviously forced to operate in an environment where monies are dependent on irregular collection cycles and competing demands from other municipal activities.

Financial Management Systems

While the municipalities may consider their existing financial management systems as suitable for tracking municipal services' revenues and expenditures, inadequate financial record keeping on the part of municipal councils would, no doubt, present a negative image of fiscal responsibility to potential investors in any joint-sector infrastructure development scheme. On the basis of limited study, financial management systems ranged from acceptable in the larger jurisdictions studied to poor at the urban council level. Audits of local authorities' financial statements conducted by the Auditor-General lag by at least one year behind the record year, and in some jurisdictions accounts are maintained only in Sinhala. In general, local authorities collect rents and taxes on a quarterly basis; central government institutions within the municipality's jurisdiction are years behind in

the payment of service fees. Further exacerbating the municipal finance situation is a near total lack of understanding of the merits of depositing service fees into separate revenue accounts to ensure a consistent cash flow.

A review of municipal financial records revealed an inability to identify revenue streams for key municipal services, such as solidwaste management. This suggests a questionable prospect of prompt payment for services rendered and does not serve as a positive signal to engender private participation in the provision of municipal services. Thus, a priority of the Environmental Infrastructure Unit (EIU) within SIDI should be the creation of municipal-level underwriting standards to make the market more conducive to private participation in the delivery of municipal services. The underwriting standards should detail the nature and sources of payment, credit history, quality financial management, propriety of bookkeeping, and positive economic prospects.

A considerable effort is needed to bring accounting to a current basis and improve public accountability. Furthermore, local authorities' finance staffs are in dire need of strengthening through a training program designed to substantively improve the skills of this key municipal function.

System of Local Resource Mobilization

Pursuant to §§230 through 272 of the Municipal Councils Ordinance, Councils are authorized to collect the following types of revenue:

1. Rates based on the assessment of property
2. Taxes on vehicles and animals
3. Taxes on certain trades
4. Taxes on certain businesses
5. Taxes on undeveloped land
6. Taxes on certain sales of land
7. Tolls

In addition to the aforementioned rates and taxes, a municipal council can enact by-laws pursuant to the charging, levying, and recovery of fees and monies for services. Urban councils, on the other hand, are not allowed the freedom to make these changes internally without the permission of the MLG.

1. *Property Taxation*—Local authorities levy rates, or property tax, on the occupiers of property on the basis of the property's annual value. The annual value is defined by statute as "the rent at which a [property] might reasonably be expected to let from year to year if the tenant undertook to pay all rates and taxes and the landlord undertook to bear the cost of repairs necessary to maintain the [property] in a state to command that rent or, if higher, the actual rent paid."[3] The annual rental value is often hypothetical as many properties are owner-occupied or subject to rent controls, while other rents may reflect extreme scarcity values. The local authority assesses a proportion of the annual value of the amount of rates the occupier pays annually. Any increase in the percentage rate levy requires ministerial approval and must be justified in terms of improved local services. Different proportions may be applied in different parts of a local authority's area, depending upon the range of local service provision.

   The assessment of the annual value of a property is the responsibility of a government official, the chief valuer, except in Colombo where the municipality has its own staff for the task. Annual values are revised every five years; in Colombo, non-residential property is revalued quinquennially. In practice, conservative assessments hold rates down, and percentage-rate levies are restricted. This creates a situation for local authorities in which existing standards are difficult to maintain in the face of escalating costs, and improvements are largely infeasible. Such a practice seriously undermines the initiative and the financial viability of local government and increases its dependence upon the GSL's financial assistance.

   Although local authorities are empowered to tax and license a number of activities, the property tax is by far the only local tax that can be tapped for sufficient revenues to finance local services. The often hypothetical nature of rents, combined with a cautious approach to valuation, produce annual values that are often significantly below the current level of market rents.

2. *Access to the Additional Sources of Revenue*—As outlined above, municipal councils are authorized to tax entertainment, business, and trades carried on within their areas and to charge license fees on animals and vehicles (other than motor vehicles) kept in their areas. The current yield of these revenues is relatively small because the amount of tax is regulated by law rather than by the local authority. If enforced, however, yields could prove to be a significant source of revenue. Still, the prospect of municipal councils obtaining significant additional tax revenues, other than through some form of tax-

[3] The Municipal Councils Ordinance empowers this alternative basis in an attempt to tax foreign and other high-income occupiers.

sharing with the GSL, seems unlikely as many local authorities are too small to administer anything other than property tax. More importantly, the GSL is unlikely to authorize the larger local authorities to levy substantive taxes at a time when its own taxable resources are severely strained.

3. *Borrowing on the Part of Municipal Councils*—Besides the resources the local government raises through rates and taxes, Sri Lanka's municipal councils are authorized to borrow money by §§191 through 208 of the Municipal Councils Ordinance. The salient features of these sections include the following:

   - §191 Purposes for Which Money May be Borrowed

     "Subject to the provisions of §192, a Municipal Council may, with the sanction of the Minister [of Local Government], borrow such sums as may be required for any of the following purposes:—

     (a) the carrying out of any work of a permanent character undertaken under the provisions of this Ordinance or any repealed enactment;

     (b) the establishment, completion, improvement or development, of any public service undertaken as aforesaid;

     (c) the acquisition of any land or building required for the purposes of or in connection with any such work or public service;

     (d) any machinery, plant or equipment required for the purposes of any such public service:....."

   - §192 Limitation of Borrowing Powers

     "The amount at any time outstanding in respect of all loans raised by any Municipal Council under the authority of this Part shall not exceed in the aggregate ten times the fair average annual income received by the Council from all rates, taxes, properties, and other sources of income for the proceeding five years....."

   - §193 Modes of Borrowing

     "Where a Municipal Council is authorized by or under this Part to borrow money, the Council may, subject to the provision of this Part, raise the money either—

     (a) by mortgage, or

(b) with the consent of the Minister [of Local Government], by debentures issued under this Ordinance;....."

Although local authorities are presently not unduly burdened with debt servicing charges, their capacity to absorb new loans—if such were available—and meet higher debt service charges would require improved levels of cost recovery for services rendered and the implementation of an effective property tax system.

4. ***Bilateral Donors and International Lending Agencies***—Municipal councils can access resources available from bilateral donors and the international lending agencies only through the auspices of the UDA.

Cost Recovery Mechanisms

Some of the services local authorities provide in Sri Lanka lend themselves to direct charging for benefits received. This is true for public utility services, such as water supply, and activities, such as markets and crematoria. It is also true of services—such as solidwaste collection and disposal, libraries, recreation, and certain health services—although the extent of cost recovery may be limited in some cases. The costs of street and footpath maintenance, drainage, street cleaning, and lighting are difficult to recover through direct charges and are usually met from municipal general funds.

Cost recovery by the local authorities—expressed by the ratio of fees, charges, and rents to recurrent expenditure—appear to be in decline largely as a result of the failure to increase charges in line with increases in expenditure. Although the NWSDB has increased its tariffs in each of the past four years, it is clear that the level of fees and charges for other services is well below "what the market will bear." Additional revenues could be raised from trash removal and recycling, markets, parking, property rentals, crematoria, and licenses for various services. All local authority fees and charges should be reviewed on an annual basis at the time of approving the budget to ensure that service charges are increased at least in line with cost increases.

As discussed above in the section on the local authority budgetary process, municipal councils' financial records preclude apportioning the revenue derived from the rates and other taxes to assess whether such apportionments meet the cost of municipal services, particularly those of solidwaste collection and disposal, and in the case of Colombo, sewerage connection and wastewater elimination. Although the NWSDB has made significant improvements in charging for water and metering of services for its direct customers, similar actions have not been

taken by the approximately 50 local authorities, including Kandy and Nuwara Eliya (out of about 260). These local authorities control their own water supply systems and are responsible for the O&M of the scheme, sale of water to consumers, and billings and collections.

Contracting

§228 of the 1980 Municipal Councils Ordinance permits "... contract[s] for the execution or performance of any work or service or for the supply of any articles or materials for a municipal council that involves an estimated expenditure of more than one thousand five hundred rupees, or which will or is expected to endure for more than one year...[provided it] be reduced to writing, and signed by the mayor and the Commissioner on behalf of the Council..."

With regard to tendering, §299 of the Ordinance specifies that "Before any...contract...is entered into...

(b) the Commissioner shall,...,call for tenders by advertisement;

(c) the invitations to tender and the tenders, if any, or copies thereof, shall be laid before the Council which shall either accept one of such tenders, or rejects all of them;

(d) the contract shall be sanctioned by the Council, after satisfying itself that the necessary funds have been provided for the same in a sanctioned budget or supplementary budget."

Project procurement will need to follow GSL procurement rules and regulations described above. Depending on the size of the contract envisioned, these procurement methods will include International Competitive Bidding (contract value > Rs. 40 million for civil works), Local Competitive Bidding (contract value < Rs. 40 million for civil works; < Rs. 2 million for equipment), Direct Purchase/Negotiation or Single Tender (contract value < Rs. 2 million for equipment), and Force Account (contract value < Rs. 2 million for civil works). These are described below.

In the event that local civil engineering contracting and equipment supply firms do not have the depth or capability to undertake various environmental infrastructure projects envisaged under the Promotion of Private Infrastructure Project (PPI) project, international competitive bidding may be required for a number of the components of these municipal projects. Procurement of civil works and equipment through the international competition route will follow standard

international procedures. That involves international advertisement for contractors and suppliers to prequalify and the opportunity to bid for sub-projects offered to prequalified firms.

Local competitive bidding is the local procurement method for civil works contracts, and it is anticipated that most civil works associated with local environmental infrastructure projects will be procured under this method. Contractors will be prequalified by each local authority and will be invited to prepare and submit tenders based on contract documents prepared under the project. Bids will be evaluated in accordance with GSL guidelines, with the lowest complying bid being accepted. It is envisioned that local competitive bidding will be employed for all those activities not requiring procurement through international bidding or not of a sufficiently small size to allow procurement through Direct Purchase or Force Account.

The Direct Purchase/Negotiation or Single Tender will be used for the procurement of minor items of equipment and tools. This method requires that prices be canvassed from at least three local suppliers and the lowest complying offer be accepted.

Certain types of small civil and building works may be implemented by Force Account or administration through the departments of the municipal engineer or superintendent of works. This type of procurement involves the local authority implementing sub-project components using its own labor and equipment and purchasing its own materials.

Central Government Financial Assistance to Local Authorities

Revenue Grants

In recent years local authorities have become increasingly dependent upon the GSL to finance the shortfall between current expenditures and revenue. This is partially attributable to the failure to charge realistic property taxes, the inability to raise other local taxes, and the unrealistic nature of the fees charged for municipal services. The nature of the present grant system, however, which automatically reimburses local authorities for much of the increase in employee costs that have occurred in recent years, is partially to blame for the current situation.

Direct grants to all local authorities rose from Rs. 363 million in 1983 to Rs. 1,044 million in 1992. A number of small specific grants are paid to local authorities, but they are of a fixed or reducing amount. Most of the grant is

allocated in relation to increases in employee costs as part of the GSL's policy of ensuring that local government staff enjoy salaries and conditions equivalent to central government employees.

The current revenue grant arrangement related to employee costs provides only temporary relief against the chronic financial weakness of many local authorities. Were the GSL to introduce measures to improve cost recovery and strengthen the property taxation system, much of the need for revenue grants would disappear. Some of the savings could be used to improve the system of capital grants described below.

Capital Grants

There appears to be no formalized system of capital grants for local authorities. Any assistance tends to be provided on an *ad hoc* basis, through the GSL's decentralized budget system. Many of these funds, however, are used in the rural areas, and urban authorities must either generate internal resources or borrow to cover the cost of capital projects. Borrowing is generally done through the LLDF described below. Given the increased demand for financial assistance under the LLDF and in view of the limited resources at the disposal of the fund, alternative non-concessional financing arrangements for public utility projects should be devised that emphasize full cost recovery and full provision for debt service.

The Local Loans and Development Fund

Municipalities are eligible for resources from the MLG-administered LLDF. LLDF resources are granted for both revenue generating projects—such as wholesale and retail markets, office buildings for rent, trade centers, and cold storages—and non-revenue generating projects of a social infrastructure nature. The latter include roads and bridges, auditoriums, stadiums and recreation areas, public libraries, and crematoriums as well as the purchase of solidwaste disposal vehicles or tractors. Land, however, cannot be purchased with the proceeds of LLDF loans. The terms and conditions of these loans are as shown in Table 3.

Funding for approved revenue-generating projects will be limited to 80 percent of project cost up to a maximum loan of Rs. 5 million (U.S. $104,200). Approved social infrastructure projects, on the other hand, will be 100 percent funded up to a maximum of Rs. 3 million (U.S. $62,500). Repayment of loans for revenue-generating projects must come primarily from the income the project generates.

Table 3 MLG and LLDF Loan Terms and Conditions

Project Category	Maximum Loan Size	Interest Rate	Term	Grace Period
Revenue Generating	Rs. 5 million	14%	12 years	2 years
Social Infrastructure	Rs. 3 million	12%	18 years	3 years
Solidwaste Disposal Vehicles	Rs. 3 million	12%	5 to 8 years	None

In the case of repayment of loans for non-revenue-generating projects, resources for repayment must come primarily from the general revenue of the local authority.

Municipal governments must enter into an agreement with the MLG pledging their rates and taxes as security for a LLDF loan. Applications for additional resources from municipalities that are behind in their existing LLDF repayment will not be considered for funding.

Loan approval is based on the merit of the feasibility study submitted by the municipal council. Consultants attached to the MLG's Urban Programme Unit conduct an independent and separate technical, economic, and financial appraisal of each proposed project. The municipality submitting its project for appraisal must pay a fee in the amount of 0.1 percent of the estimated cost of the project.

Personnel Issues: Qualifications and Skills

NWSDB Personnel Responsible for Delivery of Water and Sanitation Services

Although competitive salaries in private industry and overseas employment continue to strain NWSDB's ability to recruit and retain competent staff, the problem is not as acute as during the 1980s. At that time the sector barely managed to secure the manpower necessary to attend to its various activities.

The NWSDB maintains an active staff training program overseen by an assistant general manager for manpower development and training. The development of training competence within the NWSDB has been based on a strategy of training of trainers, on-the-job training (OJT), and the extensive use of other training resource centers available in Sri Lanka. During the late 1980s there was a significant change in emphasis from formal classroom training to OJT using NWSDB officers in a training mode. This has been particularly successful in the O&M, financial, and commercial areas with substantial skill upgrading taking place

in the regions. In addition to the OJT program, a significant amount of skill training has been provided. During 1991, for example, the training unit was able to offer in excess of 5,000 person-days of training per quarter, compared to only 732 person-days during the last quarter of 1985. Considerable upgrading in basic management competence has accrued to middle managers and supervisors. For these individuals, formal courses have proven to be very successful. The development of an employee performance evaluation system was a key component of the upgrading process.

The board's first training plan was prepared based on the results of a comprehensive survey of training needs conducted during 1992. A large number of external and internal training programs have been designed to offer NWSDB staff the opportunity to develop the requisite knowledge, skill, and attitudes to perform their tasks effectively and efficiently. The Manpower Development and Training Division places considerable emphasis on learning from water authorities in other less-developed countries, and study tours have been arranged for that purpose.

Despite these efforts, however, formal training courses alone will not result in institutional management development. The key is continuing support and reinforcement through day-to-day facilitating and coaching on the part of resident expatriate consultants.

Local Government Personnel Responsible for Delivery of Municipal Services

Hiring of municipal government personnel was until very recently under the control of the Local Government Service Commission. Control of municipal personnel has now passed to the provincial councils. The existence of this commission hinders local recruitment and makes it difficult for many local authorities to supplement their staff with competent professionals.

Several members of the municipal staff are crucial to the success of joint-sector environmental infrastructure development. They include the town planning officer, the municipal engineer in charge of public works, the medical officer charged with overseeing solidwaste management, and the municipal accountant responsible for budgeting and financial management. EIU personnel will need to work with these staff members to identify and promote particular environmental infrastructure projects. In general, the conditions of service in the Local Government Service are quite stringent on paper. For example, those seeking the post of town planner in the Local Government Service must show proof of the following:

- Special degree or a post-graduate degree from a recognized university in one of a number of relevant disciplines
- Membership in the Royal Town Planning Institute of London
- At least three years of town planning experience or a Master of Science degree in Town Planning from a recognized university and at least eight years of experience as a town planner

In practice, however, field observations indicate that for the most part technical and administrative staff at the local-authority possess only basic skills apparently learned on the job.

On the basis of very limited study, it appears that for most of the improvement required in local government management as well as for development purposes, the nucleus for accelerated activity is in place. As such, improvements in the level and efficiency of services at the local level will require strict attention to the needs for upgrading or supplementing existing skills. Chapter 4 below proposes a training and technical assistance program to enhance the capacity of municipal staff to design, implement, and manage joint-sector environmental infrastructure development projects.

2

POTENTIAL PRIVATE-SECTOR FINANCING OF ELIGIBLE PROJECTS

Need to Demonstrate Financial Viability of Joint-Sector Projects

The financial viability of a joint-sector environmental infrastructure project over its intended life must be clearly demonstrable to potential equity investors and lenders. This means that the project must have a *clear and certain source of revenue* that will be sufficient for the following:

- Service principal and interest payments on the project debt over the terms of the various loans
- Provide a return of and on equity that is commensurate with whatever development and long-term project risk the equity investors will be asked to take

In the case of water distribution systems, for example, the source of revenue may either be a government authority's payments or direct sales to consumers.

Since the revenue must be sufficient to service the project debt, the total cost of the project must be reasonably predictable, and investors and lenders must have confidence that the project can actually be built and operated as planned. If plant and equipment are required, it normally will be provided and constructed on a fixed-cost turnkey basis. Also, normally only proven technology will be used. Experimental techniques or untried, "state-of-the-art" technology is less likely to be approved by lenders who are being asked to commit substantial sums on a limited recourse basis.

Need to Provide Security to Lenders

One of the key challenges to be met in any joint-sector infrastructure project is how to provide adequate security to non-recourse or limited recourse lenders. An infrastructure project differs dramatically from the typical large commercial real estate project in which non-recourse lenders will often consider themselves adequately secured simply by right to foreclose on the project's real estate, plant, and equipment in the event of default. In the public/private partnership context, non-recourse lenders rightly fear that, if the project company defaults, there will be no ready market for a partly built project that does not work. Various security devices, therefore, will have to be built into joint-sector environmental

infrastructure projects to protect the senior lenders. By and large, to the degree that these devices are designed to ensure that the project remains financially viable and therefore performs as intended, these protections are in the overall interest of the public-sector entity as well.

First, project revenues will usually be collected in one or more escrow accounts, maintained by an escrow agent independent of the project company, for payment according to stipulated priorities. Lenders normally insist that from the beginning a special debt reserve escrow account be established, built up, and maintained sufficient to pay senior debt service for a minimum period before any distributions can be made to equity investors.

Second, the benefits of the various contracts entered into by the project company (for example, a turnkey construction contract, performance bonds, supplier warranties, insurance proceeds, etc.) will normally be assigned to a trustee for the benefit of the lenders.

Finally, lenders will probably insist upon the right to take over the project in case of financial or technical default prior to the "bankruptcy" stage as well as to bring in new contractors, suppliers, or operators to complete the project. Juridically, this would normally be accomplished by having the project company's equity owners pledge all of their stock as security for the loans. In the case of foreclosure on the stock, the lenders would become owners of the project company.

Build-Operate-Transfer Versus Build-Own-Operate[4]

There is some question as to whether the "transfer" feature of a BOT scheme is necessary to meet a host country's objectives or whether in some cases a Build-Own-Operate (BOO) approach might not be preferable. A proposal on the latter basis might be significantly cheaper for the host government over the initial period, since the project sponsors would in theory have "forever" to recoup their investment and to earn a reasonable return. Most private investors, however, are not likely to give much weight to returns that are 15 to 20 years away. The typical BOT sponsors, therefore, will want nearly the same total return over the first 20 years of a BOO project as they would want from a BOT project. In that case, a host government would not gain any substantial savings from a BOO approach.

[4] For additional information see, for example: Christine Kessides, 1993, *Institutional Options for the Provision of Infrastructure,* Discussion Paper N° 212, World Bank and Arturo Israel, 1992, *Issues for Infrastructure Management in the 1990s,* Discussion Paper N° 171, World Bank.

Moreover, under the BOT approach host governments should benefit from the training and technology transferred to government control at the end of the concession period. The government should, therefore, have included provisions in its agreement with the project company to ensure that sufficiently trained personnel with access to technology are available to carry on the project thereafter. These benefits might be lacking in a BOO project. On the other hand, a BOO scheme might provide more incentive for the owners to maintain and refurbish the plant or other installation during the concession period, thereby saving the host government from having to take on that responsibility at the end of the project. Both in the case of training and technology transfer and in the case of maintenance and refurbishing, the host government many be able to protect its interests sufficiently by contract, regardless of the form of the investment.

Finally, in the case of BOT projects, it would still be possible for the host government to negotiate an O&M agreement with the project company after the initial concession period. Negotiating a new agreement for continued operations should be cheaper for the host government than merely extending the concession period, and the need for debt service or compensation to equity investors would no longer exist.

Local Project Finance Capabilities

A BOO/BOT or other joint-sector infrastructure project will normally call for some proportion of local lenders and equity investors. Finding such lenders and investors is easier in a country that has a developed banking system and some sort of organized financial market. Sri Lanka's financial institutions are relatively diverse and sophisticated. Yet, a lingering problem of the financial sector is the inability to mobilize large-scale, long-term domestic resources for term-lending.

Most joint-sector projects will derive their revenues from outputs priced in local currency that must often be used to pay for imported inputs as well as for debt service and equity reimbursement. Such projects will be more easily launched in an economic environment free from excessive inflation or unduly rapid exchange rate movements. Even if the host government is willing to protect investors in the project against both inflation and currency risk, it will be far easier to find mechanisms to do so in a relatively stable economic environment than in a highly unstable one.

In the case of Sri Lanka, its macroeconomic performance has been improving since 1989 when stabilization measures were put in place, and inflation and growth performance have been favorable ever since. As of the last major

devaluation of the rupee in September 1989, the GSL has followed cautious external payments policies.

Development Finance Institutions

The National Development Bank (NDB) and the Development Finance Corporation of Ceylon (DFCC) are the largest sources of medium- and long-term credit oriented toward the economic advancement of Sri Lanka. These institutions have provided financial resources for a wide variety of development projects in the manufacturing, agroindustrial, fisheries, commercial, and industrial real estate and hotel sectors.

Of the country's two development finance institutions, the NDB has acquired considerable experience in the management of official development assistance (ODA). Since 1979, NDB has acted as the apex refinancing institution in the implementation of the International Bank for Reconstruction and Development (World Bank [IBRD]) and Asian Development Bank (ADB)-funded Small and Medium Industrial Loan Scheme (SMI). The SMI scheme also includes an environmental protection component. A total of Rs. 752 million in SMI refinancing was disbursed during 1992, an increase of 25 percent over the previous year. NDB also serves as apex agency of the GSL-funded Bus Transport Finance Scheme. The bank was recently chosen to serve as apex refinancing institution for a new ADB-provided credit line to improve the economic condition of the country's fishing communities.

In the area of administration, the NDB operates a separate department for its activities vis-à-vis its apex agency responsibilities with the IBRD and ADB. Not only has the NDB provided training to its own staff in the operation of the SMI, it has ensured that the level of competence of the staff of the participating credit institutions in the scheme also receives high priority. As workloads have increased in the SMI's administration and the NDB's other ODA-funded projects, staffing levels are adjusted accordingly and new personnel fully trained.

The NDB's current operation of the IBRD/ADB SMI credit line, for example, is organized into six main sections. The Analysis and Review Section reviews participating credit institutions' appraisals and refinance applications. The Reporting and Liaison Section prepares periodic reports on these institutions' lending, supervision, and collection performance. The Finance and Disbursement Section disburses refinance, collects repayments, administers project funds for the technical service components, and maintains accounts. Three other sections are responsible for monitoring and supervision, training, and subsector analysis. Staff associated with these sections not only have good working relationships with

principal players in these key areas, they also possess an all important understanding of the strengths and weaknesses, constraints, and potential of these particular subsectors. Of obvious benefit to the PPI Project, as apex institution for several years now, the NDB has streamlined and improved the subloan process for the financial institutions, participating in the SMI program.

DFCC's main objectives are "to assist in the promotion, establishment, expansion, and modernization of private industrial agricultural and commercial enterprises in Sri Lanka and to encourage and promote the participation of private capital, both internal and external, in such enterprises." Over the years the DFCC has traditionally been active in providing medium- and long-term credit and making equity investments in private-sector enterprises. Although its asset base is not as large as some of the private domestic commercial banks, the DFCC plays a critical role in providing finance to sectors where commercial banks would not otherwise lend. The bank is efficiently run and tightly managed. Its systems are satisfactory, and it has a trained and well qualified team quite proficient at project finance.

Domestic Commercial Banks

Over the years IDA has provided Sri Lanka with a number of credit lines to undertake SMI projects, in which several of the country's private domestic banks have participated, including the Commercial Bank of Ceylon, Hatton National Bank, Sampath Bank, and Seylan Bank Limited. Under these projects, funds were provided to these banks to assist them in building their project finance capabilities through staff training and systems development for selecting, appraising, and supervising SMI-type projects. Increasingly, these institutions have begun to extend term loans to larger enterprises and have demonstrated their ability to manage this sector effectively.

Under IDA's latest SMI credit, this assistance will be continued, particularly in the area of management information system development and risk management and pricing. Since the fifth IDA SMI program will introduce the use of variable rates, training for participating credit institutions will also include the development of mechanisms for isolating, managing, and pricing interest rate risk. These upgraded skills in project finance are expected to directly benefit the PPI Project once environmental infrastructure projects are identified for funding.

Structuring Loan Packages for Viable Projects Eligible for A.I.D. Housing Guaranty Loan (HG) Financing

Virtually all of Sri Lanka's financial institutions with access to primary term savings are publicly controlled and invest their funds on either a short-term basis or in longer-dated public securities issued at managed rates. Little secondary market activity exists, and institutions normally hold the securities to maturity. Insufficient access to term savings, lack of a secondary market in debt instruments, and virtually no market-determined pricing of longer-dated public securities make it difficult for private entrepreneurs to obtain domestically funded term loans. Thus, funds provided by bilateral donors and the international lending agencies have for years been the major source of the country's term lending through commercial channels.

A series of reforms have been initiated to facilitate the development of an effective market for the issuance of both public and private debt instruments. The near-term objective of these reforms is to develop market-driven procedures for the issuance of debt instruments as well as the removal of the requirement for publicly controlled savings institutions to invest virtually all their funds in public securities. At the same time, the development of a trading and settlement infrastructure and regulatory framework is necessary to develop a market in such instruments with sufficient depth and liquidity to encourage the mobilization of domestic savings and their use in financing productive investments.

Until these reforms are fully implemented, domestically funded term loans will be limited to a five- to six-year time horizon. Compounding the term issue is the limitation on the amount of resources that can be mobilized domestically for any given project. On the basis of limited study, it appears that the rupee equivalent of U.S. $10 million is currently the maximum domestic syndication available for any one project. The availability of foreign loan syndications are a function of the overall climate for investment in Sri Lanka. If the ethnic disturbances escalate significantly, the possibility for foreign investment in environmental infrastructure would undoubtedly stall. Any deterioration in the business climate would also adversely affect repayment of loans. Since such projects generally offer lower returns and require considerably longer periods in which to recoup one's investment than competing investment opportunities, the prospect for investment in environmental infrastructure is further complicated.

Until longer-term lending is revitalized in Sri Lanka as a result of the ongoing reform process, it appears that municipal solidwaste services with their inherent lower economies of scale, technological simplicity, and moderate investment costs

currently offer the greatest opportunity for privatization and financing with HG resources.

3

ACTION PLAN FOR THE EIU

The GSL has endorsed a policy promoting public/private-sector partnerships for infrastructure development and has made an institutional commitment through SIDI to carry out the policy initiative. Still, the major factors underpinning any joint-sector ventures in the achievement of the GSL's broad goals in the area of environmental infrastructure are largely underdeveloped. These include political commitment, comprehensive planning, financial autonomy, financial accountability, and rights and responsibilities within public/private relationships.

The policy themes delineated below are designed to substantively support a broad-based policy agenda and achieve the institutional development objectives of PPI in general and the urban environmental infrastructure in particular. Chapter 4 details the specific plan for technical assistance incorporating elements of these policy theme topics considered crucial for developing the capacity within the environmental infrastructure sector's relevant institutions to enter into joint-sector ventures for urban service delivery.

Political Commitment

The most important component of a privatization strategy is the political commitment to implement it. National and local government leaders must first recognize that due to severe constraints on public financing, requisite improvements in urban environmental infrastructure necessitate a partnership with the private sector. This recognition must then be translated into proactive financial, regulatory, and enforcement policies that support private-sector participation in the delivery of water and sanitation services. Communication between local officials and the public, as well as between government officials and their institutions, will be a major factor in generating political will and in determining the relative success of the activities that the EIU envisions.

Comprehensive Planning

The NWSDB and the municipal councils must begin to view investment in urban environmental services within the context of a comprehensive capital budgeting and planning approach, incorporating all elements of the delivery system. This is particularly important in the privatization process to ensure that

the private sector's component(s) fit into, and are supported by, an overall urban services plan.

Financial Autonomy

To ensure efficient delivery on a continual basis, environmental infrastructure requires an autonomous, reliable source of funds. Municipal officials in Sri Lanka will need to begin programming funds specially earmarked for specific urban services. More importantly, the NWSDB and the municipal councils will need to focus their attention on adopting appropriate service fees—particularly for commercial, industrial, and institutional clients—as a means of providing viable and equitable sources of financing urban services.

Financial Accountability

A prerequisite to any privatization plan is a thorough understanding of the true costs of service delivery and the magnitude and sources of financing required to sustain it. It is absolutely necessary that the NWSDB and local governments, which will negotiate and evaluate private contracts, and the private investors, who will budget for expenses and profit margins, know the actual, unsubsidized costs of providing urban services.

Public/Private Relationship: Rights and Responsibilities

Contracting out to private-sector firms for the provision of urban services is a method of privatization that has been most widely used in developing countries, and it has fewer implementation problems and constraints than other methods. Nevertheless, despite its familiarity and simplicity, contracting out is often poorly managed. The country's potential public participants, such as the NWSDB and the municipal councils, must realize that they run a great risk if they give up too much responsibility and control to potential private contractors. In the end, local residents will hold municipal leaders responsible if prices are too high or service levels too low for expected public services. The NWSDB and the municipalities must ensure that the private firms they contract are truly operating cost effectively and that they are maintaining high standards of service delivery.

4

TECHNICAL ASSISTANCE AND TRAINING NEEDS

The concept of identifying opportunities for the development of environmental infrastructure projects on a joint-sector basis in all of Sri Lanka's urban areas would be infeasible if it depended solely on donor assistance. The only way to further the BOO and BOT concept will be to build capacity within SIDI and its EIU, so that the EIU can operate training programs for and provide technical assistance to local authorities for application of the joint-sector infrastructure development process over the long-term.

This view evolved during the design of an environmental infrastructure amendment to PPI. The project amendment provided requisite resources from the HG to realize this objective, and capacity building must be the focal point of the EIU's activities.

The following section presents an overview of technical assistance and training needs at the municipal council level, and to a lesser extent, the NWSDB, which could significantly strengthen the joint-sector environmental infrastructure development process. These needs are based on observations and discussions with local government officials and staff and with consultants in the environmental infrastructure sector familiar with the functioning of local authorities.

Since many potential recipients exist for the envisioned technical assistance and training program outlined below, *priority should be given to those whose improved skills will most benefit the establishment of joint-sector development of environmental infrastructure in the very near term.* In this regard, the main recipients of technical assistance and training in the early stages of the program should be in order of importance municipal leaders, community organizations, municipal finance officers, and town planners.

Promoting Public Support of Joint-Sector Environmental Infrastructure Projects

As in the case of the PPI Project overall, promoting awareness of and support for joint-sector development of "environmental" infrastructure within the GSL bureaucracy, the business sector, and the general public will be crucial for creating the political will to implement projects that *directly improve the physical living environment of below-median income households.*

The EIU will focus its attention in this regard on several simultaneous efforts, using a variety of techniques to disseminate information on the objectives, rationale, and, most importantly, *the benefits* of joint-sector development of environmental infrastructure projects. In conjunction with SIDI's ongoing efforts to increase public awareness of the benefits of public/private partnerships in overall infrastructure development, the EIU will undertake a parallel program to create support among the general public and public officials, particularly those at the municipal level, for infrastructure jointly developed by the public and private sectors.

Since community preparation will be essential to the project's success, the EIU will target a myriad of local organizations, community residents, and local business associations to encourage them to participate in discussions on the benefits and costs of public/private partnerships in environmental quality. The EIU will focus its attention largely on the municipalities as ***local leadership is likely to be much more effective than central government in directing the urban development process in individual cities.*** One of the highest priorities of the EIU will be to encourage local officials to move into a commanding role vis-à-vis environmental infrastructure planning, preparation, and implementation.

Particular attention will be paid to the willingness to pay for particular types of environmental infrastructure. It is the essence of private markets that households not be forced to pay for services they do not want to buy. Critical to establishing a self-sustaining system of environmental infrastructure will be decisions on the following:

- Which local environmental services should be delivered through the private sector (subject to consumer choice)?
- Which local environmental services should be delivered collectively through the public sector?
- How will the latter be paid?

Another priority of the EIU will, of course, be proactive liaising with central governmental entities involved in the planning, financing, and provision of infrastructure to develop a thorough understanding of the relative merits of the public/private partnership concept.

Community organizations, local business leaders, municipal government officials, technical staff, and central government bureaucrats should be targeted with a training program. The program—aimed at accelerating requisite support for and understanding of joint-sector development of environmental infrastructure—should consist of at least two phases. The first phase would largely

involve introducing the concept of privatization of municipal services, clarifying the EIU's objectives, and soliciting involvement in the privatization process. A community participation program might consist of the following basic components:

- Involving members of the local authority from the inception in a participatory planning process
- Ensuring involvement of all sections of the community through formal and informal community leaders
- Forming an action committee as a necessary first step in involving community leaders in joint-sector project development
- Forming user/consumer groups to ensure acceptance of facilities and to encourage a sense of ownership and payment for services
- Promoting community awareness of paying service fees (and reducing waste in the case of water supply) through buttons, stickers, advertisements, posters, calendars, etc.

The second phase should consists of a team approach within a seminar/workshop context that might incorporate the elements listed below. Each team will review the main activities of its local authorities to identify activities/functions and services that could possibly be transferred to private firms and are likely to lead to an overall gain in the welfare of the community through increased efficiency, reduced costs, etc.

- *Step 1*—Select a representative local authority and draw up a list of the main categories of public services it provides and indicate any issues or problems associated with provision of these services.
- *Step 2*—Summarize the nature of each service and its financial features in terms of relative size of capital and operating expenditures and size and type of human resources involved in providing the service to consumers.
- *Step 3*—Evaluate the suitability/practicality of transferring each main local government activity to the private sector and apply the checklist of issues and problems developed earlier to each of the services identified in Step 1.
- *Step 4*—Select a short list of possible local government activities that could be considered for privatization, and rank these activities in order of the likelihood that privatization will result in the greatest cost savings or improvements in the quality of service.

- *Step 5*—Select the top priority urban function that a private firm could undertake and define an implementation plan to initiate, guide, assist, and monitor such a program.

Need for Technical Assistance and Training in the Formulation of Investment Plans

With the possible exception of Colombo, the smaller municipalities included in this assessment—Galle, Kandy, Nuwara Eliya, and Matara—apparently do not employ even the simplest systematic process for capital investment planning. As such, it is recommended that the EIU prioritize technical assistance and training targeting the municipal councils to enable them to make rational decisions regarding capital investments. This decision-making process should start with an inventory of all existing infrastructure that specifies size or quantity, age, coverage, and current condition. From this inventory, the municipality can then make rational decisions to undertake capital investment (employing BOT terms, where appropriate) based on the three key considerations:

- The need to reconstruct or replace existing facilities to maintain existing levels and quality of service
- The need to upgrade or add to existing facilities to improve either the quality of service or coverage
- The need to undertake new programs or services beyond those the municipality currently offers for economic or social reasons

The envisaged technical assistance and training would enable the municipality to initiate a capital investment plan consisting of the following steps:

- Establish goals for the level and quality of service in terms of measures or indicators.
- Compare service goals with existing levels and delineate capital projects required to meet service goals with at least a priority listing of when these projects should be started and completed to achieve specific goals.
- Program investments required to meet the priority schedule established in the previous stage.
- Conduct studies to establish the technical feasibility of these projects and to develop sufficient engineering information on which to base cost calculations.

- Based on the preliminary cost estimates and the time schedule the technical studies require, revise the initial priority list to establish a preliminary five-year investment plan that outlines the time schedule and costs for all capital investment projects that the municipality is considering.
- Develop a financing plan by conducting a detailed financial analysis of the municipality's capacity to undertake the investment program.
- Develop an actual capital budget with sufficient detail (e.g., return on assets, payback, and discounted cash flows for charges designed to pay for services) to understand the full cost implication of each project, the annual financial value of the total investment, and the current budget implications of each project.

The EIU should make itself available to line ministries to provide assistance to perfect these agencies' internal expertise with regard to identifying opportunities for private financing of urban services targeted at the urban poor. Such assistance might include, ***inter alia***, perfecting environmental infrastructure project-planning capabilities of NWSDB and UDA planners and responding to requests for technical assistance from implementing agencies for project development. The role of the EIU vis-à-vis the line ministries should be purely that of a technical resource and will remain in place as long as the individual agency deems necessary.

Need for Technical Assistance and Training in Appraising Environmental Infrastructure Projects

At the current time, municipal planning officers do not possess the skills to carry out basic appraisals leading to ***prefeasibility*** studies of promising municipal services projects that can be undertaken on a joint-sector basis. Experience demonstrates again and again that prefeasibility studies should be undertaken to determine whether it is worthwhile to proceed to the next stage of more advanced planning. The exercise should also investigate whether other ways of achieving the same objective can be found and whether the alternative technology packages are cost effective.

Through appropriate EIU-provided technical assistance and training, the following techniques can be transferred to municipal planners to appraise the initial feasibility of environmental infrastructure projects:

- Identify the target group that the project aims to assist in terms of their needs, ability to pay, etc.

- Identify and delineate the full range of project capital and operating costs, benefits, impacts, and outputs over the expected life of the project.
- Collect and analyze demand and cost projections, project impacts, inputs and outputs, costs, and benefits.
- Calculate measures of project profitability.
- Undertake sensitivity analysis to determine how selected costs and benefits affect the project's profitability.
- Undertake an initial environmental impact assessment.
- Prepare a final report for presentation to potential investors through SIDI.

Need for Technical Assistance and Training to Enhance Local Revenue Generation

Strengthening local revenue mobilization is fundamental to private participation in infrastructure investment and service delivery. Given the constraints on central government grant financing, local authorities will be able to meet their investment targets only by generating income streams that can help pay for capital costs. Moreover, effective pricing of local public services is a prerequisite for effective recovery of existing services, gauging market demand, and making market-driven choices regarding local investment priorities. It is thus central to the process of designing infrastructure projects on a joint-sector basis.

The revenue yield from local taxes and charges could be substantially increased in Sri Lanka if the local revenue administration were improved. Revenue administration is concerned with the implementation of fiscal policy: the process of identifying and registering taxpayers and consumers and assessing, collecting, and enforcing. It is concerned with the administrative feasibility of a local tax source or charge. If a revenue source cannot be administered effectively (i.e., if yields fall short of potential) or efficiently (i.e., if costs represent an unreasonable percentage of yields), it is necessary to reconsider its imposition and to evaluate substitutes. The objectives of revenue administration are to ensure the following:

- Everyone who should pay a tax or charge does so.
- Everyone pays the right amount.
- All revenue is properly brought to account by those who collect it.

This requires several steps:

- Identifying all those liable to pay
- Assessing them correctly
- Collecting the payments as assessed
- Checking who has not paid and enforcing sanctions
- Controlling actual receipts by collectors to make certain they are brought to account

Several important opportunities exist for increasing local revenue mobilization. For example, yields under the property tax (rates) can grow rapidly as long as registration procedures, assessment methods, and billing and collection procedures begin to be upgraded through assistance in property tax administration. More effective pricing of local public services also can substantially enhance local revenue growth and increase the efficiency of public service delivery. In most cases, this will mean more aggressive use of cost recovery pricing as well as administrative improvements in billing and collecting for service provision.

As a first technical assistance priority under this theme, the EIU should carry out a series of specialized studies on current service pricing practice, billing and collection practice, institutional capacity, capital financing needs, and the net surplus or deficit position of local providers in each of the key environmental service areas: potable water supply, wastewater collection and removal, and solidwaste collection and disposal. These studies would describe and assess current practices, based upon a series of local case studies, recommend practical changes for service and revenue administration, and analyze appropriate changes in pricing policy in light of the economic and environmental characteristics of the respective services as well as their revenue generating capacity.

Each of these studies should recommend a sequence of steps to improve local revenue mobilization and system administration within the service area covered. Once the relevant government authorities endorse them, they would become the guidelines for the next phase of technical assistance at the local level. This technical assistance in pricing and revenue administration should be carried out in collaboration with the technical assistance in investment planning recommended above.

Finally, central government legislation will eventually be needed to give local authorities greater flexibility in deciding which local taxes they will impose, some flexibility in deciding appropriate local tax rates, and potential access to more buoyant revenue sources. Examples of technical assistance in this area, consisting of basic information studies, include the following:

- The extremely limited revenue raised by various miscellaneous taxes at the local level where the direct and variable costs of tax administration exceed revenue collections
- Alternative ways that limited local discretion over tax rates could be introduced, consistent with central government constraints

Need for Technical Assistance and Training in the Contracting for Environmental Services with the Private Sector

It is doubtful that Sri Lanka's local governments would be fully able to develop, negotiate, manage, monitor, and enforce a competent contract instrument without the provision of EIU technical assistance.

Several basic elements in the contracting process will require the municipal councils' special attention, specifically with regard to contractor qualifications and the tendering (bidding) process. When a local authority is preparing its contract specifications, it needs to have a clear idea of exactly what it wants. The recent discussions with five municipal councils suggests that this would be difficult to do on their own. EIU assistance in preparing the contract specification will go a long way to ensure that an appropriate bidding company knows exactly what it is getting into and what kind of revenues it can generate. Contracting is a viable means of securing service as long as it is possible to adequately describe the outputs anticipated from the contract. Proper contract specifications will also help to ensure consistency of service.

Municipal councils will also need to thoroughly understand that their contracts with the private sector should be of sufficient length to allow the private contractor to recoup some of its initial costs. From the point of view of the contractor, the minimum length of a contract that it would seriously consider will depend on the conditions faced in a given area. If a U.S.-based waste disposal firm, for example, were to bid on a contract in an area where it had no previous operations, such as Sri Lanka, it may want a six- to eight-year contract to enable it to depreciate capital expenditures for appropriate equipment. Although that is a long period of time, the firm would have to move a considerable amount of personnel and equipment over a great distance, and that is expensive relative to contracting in another U.S. location or in Canada or Mexico.

Finally, monitoring performance of the private sector is very important. Complaints regarding municipal solidwaste service, for example, should be received by the local authority even when a private firm is providing the service. A "complaint bureau" within the local authority that follows up on whether the

private contractor has properly addressed the problem resulting in the complaint would go a long way in increasing the accountability of the local authority.

Need for Technical Assistance and Training to Facilitate GSL Goals for the Water Supply and Sanitation Sectors

Since the late 1970s, the GSL has repeatedly stated its commitment to the 1976 United Nations HABITAT Conference goals to supply all communities with piped water and sanitation by 1990. Even though these goals were modified over the years to realize 100 percent coverage for urban populations and 50 percent coverage for rural populations, these ambitious goals have never been met. This was largely due to the massive investment required, which was and remains beyond the means of the economy; the limited implementation capability of the NWSDB and the local construction industry; and the limited financing from foreign sources.

In urban communities, public health considerations preclude a significant departure from the traditional piped water approach; the reduction of service levels to those approaching the minimum for basic public health appears to be one practical way of lowering per capita cost of assets sufficiently to permit meeting some of the GSL's targets. The most cost effective way, however, to provide water for new populations is to cut down on waste in current water usage (rather than to draw totally new supplies).

The use of water-borne sewerage outside of Colombo is not financially viable in view of the extremely high per capita costs involved. As such, improvements in sanitation services in outside areas should focus on low-cost techniques utilizing, *inter alia*, pour flush, leaching pit facilities for new construction coupled with an extensive program of conversion of existing pit latrines to this form of disposal. A promising alternative at the intermediate-cost level is the small bore sewer.

Technical assistance focusing on the identification of appropriate technologies and the examination of options for the adoption of more modest service levels may be the means of making the GSL's goals a practical reality. Not only does this approach involve lower capital cost, it also involves significantly lower recurrent costs for O&M. Further exploration of these options must play an important role in any strategy to improve the urban environment of Sri Lanka.

5

OPPORTUNITIES FOR ENVIRONMENTAL INFRASTRUCTURE TO BE PROVIDED ON A JOINT-SECTOR BASIS

The results of discussions with five local authorities regarding their interest in environmental infrastructure developed on a joint-sector basis is summarized in Table 4.

Table 4 Preliminary Expression of Interest at the Local-Authority Level for Environmental Infrastructure Projects

Local Authority	Rehabilitation and O&M of Municipal Water Supply Systems	Sanitation	Storm Drainage	Solidwaste Management
Colombo			■	■
Galle				■
Kandy	■			■
Matara				■
Nuwara Eliya	■			■

Source: Conversations with mayors and other local authority officials

Besides these expressions of interest on the part of this small sample of municipalities in the collection of municipal solidwaste on a contractual basis[5], other schemes qualifying under the aegis of environmental infrastructure should also be explored with potential investors and local authorities. In the water supply/sewerage sector, the O&M of standpipes, meter reading, billing, and collections are also obvious candidates; service contracts for such activities carried out by the private sector have been used in Chile since the 1970s with good results in staff productivity and cost containment.

[5] The impetus for seeking private-sector involvement in this activity is obvious: studies by the World Bank, the United Nations Development Programme, and others demonstrate that expenditure on municipal solidwaste services absorbs 20 to 50 percent of total municipal revenues in developing countries, yet on average only 50 to 70 percent of solidwastes are collected.

Another contractual arrangement, the lease contract, has been used for decades in urban water supply and sewerage in France and Spain. Leasing involves a private contractor paying the public owner for exclusive rights to operate facilities—without responsibility for major investments but bearing full commercial risks. A lease contract accords an exclusive right to the stream of revenues from providing a service.

In 1989 the Republic of Guinea restructured its urban water supply sector and entered into a lease contract arrangement in which private interests participate in delivering services. The strength of the lease contract in Guinea lies in the simplicity of the institutional framework, the specificity of responsibilities, and the clarity of accountability relationships and incentives. In planning investments and setting tariffs, the national water authority has an incentive to maintain the financial viability of the operations on which it depends for revenue. The water management company is motivated to increase profits by operating efficiently and to avoid financial penalties by meeting service standards[6].

In the water supply sector a few BOT-type arrangements have been set up for source supply or treatment in Malaysia and one in Indonesia. A BOT for wastewater treatment and reuse by industry has been successfully implemented in Vallejo, Mexico. Financed entirely by the participating industries, it is operated under a renewable concession from the local water authority, which manages the distribution system linking the industries to the treatment plant.

[6] For additional information see: Thelma Triche, 1990, *Private Participation in the Delivery of Guinea's Water Supply Services*, Working Paper N° WPS 477, World Bank INUWS and _____, August 1992, *Private Sector Participation in Urban Water Supply: Issues, Implications, and Examples*, INUWS Note.

6

FRAMEWORK FOR THE ORGANIZATION OF THE EIU

USAID/Sri Lanka has recently approved an amendment to PPI in which it endorsed the mobilization of an EIU within SIDI. The action plan and training/technical assistance packages recommended in Chapter 4 seek to emphasize an integrated and "enabling" framework through which the EIU can promote investments in environmental infrastructure projects in conjunction with the overall Policy Action Plan of the PPI Project and the GSL privatization agenda.

This section offers recommendations for EIU operational guidelines, the types of professional staff that SIDI will need to recruit to achieve the EIU's goals and objectives in as short a time as possible, and an illustrative for the first year of EIU operation. In addition, a case is made for focusing the EIU's early efforts primarily on an area with the greatest opportunity to privatize, municipal solidwaste service.

The operational guidelines offered for consideration are based on a logical series of steps that local authorities and other public entities will need to follow to develop innovative financing approaches through public/private partnerships that allow them to acquire the environmental services they desperately need. These include clean and healthy drinking water, non-polluting sanitation systems, and viable means of handling solidwaste, to name just a few.

EIU's Mandate, Operational Guidelines, and Anticipated Outputs

The primary objective of the recently approved PPI amendment is the promotion of sustainable urban environmental infrastructure through expanded participation of the private sector. To accomplish this, the envisaged EIU, working in concert with SIDI, should view its mandate as ***providing requisite expertise to municipalities and other public entities to promote BOO/BOT and other joint-sector partnerships for the delivery of urban environmental services.*** The process of exploring and developing a partnership between the public and private sectors involves an orderly process with well-defined analyses of needs, available technologies, human resources, legal requirements, and procurement (bidding) options. For the municipality, the involvement of a private partner requires special skills and experience that Sri Lanka's local authorities do not possess for the most part. The EIU will be charged with guiding municipalities through a series of important steps towards forming viable and successful public/private partnerships for the delivery of sustainable urban environmental services. Although no two

municipalities will build a public/private partnership in exactly the same manner, each will be required to roughly follow the same steps. The EIU's operational guidelines can thus be delineated as follows:

- Identify community resources and generate support
- Evaluate service needs
- Review available technologies
- Identify expert resources
- Evaluate financing prospects
- Study laws and regulations
- Evaluate business interest and track record
- Consider regional options
- Select and conduct bidding process
- Develop service agreement

Identify Community Resources and Generate Support

Successful partnerships usually have a local champion—someone who keeps the process moving and the key players involved. This can be the mayor, finance officer, or public works director. It will be the responsibility of SIDI to liaise with municipal officials; in turn, the EIU will provide these individuals with information on what public/private partnerships are, the benefits that can be gained by working with the private sector, and the procedures necessary to establish viable public/private partnerships.

The type of partnership helps determine who will take the lead at different times. To contract out O&M, for example, the public works director will probably have a central role throughout the process with early input from elected officials and legal counsel during procurement and service contract negotiation. In contrast, to complete a turnkey program, the finance director and the NDB also will play key roles, especially during the financing process.

The EIU will ensure that the municipality at large also becomes involved at an early stage. Communication with the public and the media will help the community understand the benefits of a public/private partnership while curbing any resistance. Citizen support and interest can often change or improve the terms of the partnership. For instance, the municipality, with EIU support, could activate

the public by forming a citizens' task force to provide input into the partnership process.

The EIU will need to work with the municipality to adopt measures to ensure that the partnership will not displace municipal jobs or benefits. Experience shows that in some instances, private partners have provided job guarantees to overcome this problem, while some communities have had success using special placement programs for displaced workers.

Evaluate Service Needs

Any municipality considering a public/private partnership will be required to determine its needs, based on an assessment of current, short- and long-term requirements. The EIU will furnish requisite expertise to assist the municipality with this planning process.

Review Available Technologies

The municipality may or may not have a reasonably clear idea of the types of technologies that are available to meet its particular service needs. The EIU will conduct an evaluation of the advantages and disadvantages of various options to determine which will be most appropriate. For example, some facilities may be less costly to construct, but more expensive to operate over the long term. Some may not yet be proven over time, which will increase the incentive to share risk with the private sector. With EIU assistance in defining the project objective, the municipality could take advantage of private participation by giving the private sector a role in the technology review. This would be particularly effective if the municipality expects strong performance guarantees from its private partner.

Identify Expert Resources

The EIU will be able to provide municipalities with requisite assistance from its own ranks, from within SIDI, and from other PPI Project-funded sources to form and manage a particular public/private partnership. Three areas in which assistance will be most likely to be needed are as follows:

- *Planning the project*—analyzing regulatory requirements, capabilities of the current system, needed improvements, and available technologies as well as determining whether the partnership and the proposal are legally permissible

- *Evaluating financial options*—including prevailing market conditions, amortization and structural options, security and credit aspects, and the tax consequences of different partnership arrangements
- *Evaluating private proposals*—determining the proposals' ability to meet the needs of the municipality, the private partner's qualifications, the degree of control the municipality will retain, the sharing of risk, and the desirability of particular provisions

Evaluate Financing Prospects

To determine whether a public/private partnership makes sense and meets a local government's needs, the municipality, with EIU and other assistance, will assess financing alternatives and their feasibility. The decision to enter into a public/private partnership should not be made until the municipality has an idea of how much a new or improved environmental facility will cost. The EIU will, therefore, provide municipalities with estimations of both capital requirements and recurrent expenditures over time.

Since there are many ways to finance a public/private partnership and partnership arrangements can include more than one method of financing, the EIU will assist municipalities:

- *Identify financing options*—such as taxes, user charges, betterment levies, connection fees from consumers, etc. to ensure a revenue stream to pay the private service vendor, and industrial development-type bonds and loan guarantees to assist private partners
- *Assess financing arrangements*—including an evaluation of the municipality's financial condition; an evaluation of project costs; and an assessment of the risks involved in development, finance, and ownership
- *Compare financing options*—ensuring informed decisions are made

Study Laws and Regulations

The EIU will assist the municipalities in considering central government- and provincial-level laws and regulations when making decisions regarding public/private partnerships. These laws and regulations are important to review because they can influence, *inter alia*:

- How and by whom public services are delivered
- The structure of partnership

- How partnerships are financed
- Limits on charging for services
- Environmental compliance requirements
- What procurement laws and bidding procedures must be used

Evaluate Business Interest and Track Record

Before investing both time and money, the municipality, with EIU assistance, should weigh private-sector interest in a particular environmental infrastructure project. If a municipality is intent upon soliciting proposals for a particular project, interest in such a project can be generated through presolicitation activities to publicize the municipality's needs for environmental services and alert vendors to potential opportunities. The release of draft specifications or solicitations drawn up by the municipality with EIU assistance should obtain the necessary visibility and publicity. Expressions of interest in certain types of partnerships may result in constructive suggestions from the private sector regarding how the municipality should proceed to narrow its partnership choices.

In the event of unsolicited proposals from private firms interested in pursuing an eligible project in a particular municipality, the EIU will provide assistance in two areas:

- Evaluating whether the proposal will accommodate the municipality's requirements
- Assessing prospective partners' financial and performance standings by examining their recent track record, balance sheets, and client references

Consider Regional Options

The EIU should encourage municipalities to join other local authorities to take advantage of economies of scale. These regional options can be undertaken through contractual arrangements between participating municipalities or through a particular province.

In addition to reducing operating costs, local authorities that participate in regionalized facilities or services share the risks associated with financing. Municipalities can also use combined expertise to monitor the project and negotiate with private partners.

Regional arrangements can attract private partners. In evaluating the viability of owning and operating a facility or providing a service, the private partner may determine that the only feasible alternative is to service more than one municipality.

Select and Conduct Bidding Process

As described in Chapter 1 above, Sri Lanka's procedures for tendering are quite ponderous. The solicitation process to let potential partners know of a municipality's requirement would be easier if the municipality could employ a flexible process such as

- Solicit competitive, sealed bids from potential partners through advertisements, and then select a private vendor based on the lowest price and availability to meet specified performance requirements.
- Issue a request for proposal to potential partners, and then negotiate for the most advantageous deal.
- Use a two-step process that requires selection first on the basis of technical merit and, subsequently, on the basis of lowest bid.

SIDI could be instrumental in seeking revisions to existing tendering and contracting procedures specifically designed for public/private partnerships. In this regard it is critical that the bidding process be transparent and that there be a clear and formal separation between the authority issuing bids and potential contractors.

Develop Service Agreement

The service contract is the legal agreement between the municipality and the private partner to provide the type of environmental infrastructure required and the service it provides. It should be the EIU's responsibility to ensure that the agreement be designed to protect the interests of both partners by including major elements, such as contract term, project description and performance criteria, compensation method and timing, changing situations and risk allocation, contract termination and step-in rights, and insurance and bonding.

Output of the Environmental Infrastructure Component of the PPI Project

The desired output of the environmental infrastructure component of the PPI Project include, *inter alia*, effective programs and policies to institutionalize the private sector's provision of urban environmental infrastructure. It is obviously quite ambitious to achieve this output for the entire spectrum of potential environmental infrastructure projects during the relatively limited life of project. Nevertheless, by focusing on a subset of potential environmental projects, namely solidwaste management services, this output can be achieved and the public/private partnership concept put into practice *if appropriate Sri Lankan professionals can be recruited for the EIU in the very near term.*

Organizational Structure of the EIU

The EIU will function as a dedicated module within SIDI. In this capacity, it should be charged exclusively with the following:

- Promoting urban environmental infrastructure projects developed on a joint-sector basis that directly improve the physical living environment of below-median income households
- Assisting Sri Lankan municipalities in forming public/private partnerships for the delivery of these environmental services

It is envisaged that the EIU team would be supported on an as-needed basis by select personnel from within SIDI and short-term local and non-resident consultants. This supplemental personnel would first provide the requisite support for the EIU's mobilization and integration into SIDI and then provide assistance and training following the unit's mandate.

Appendix 1

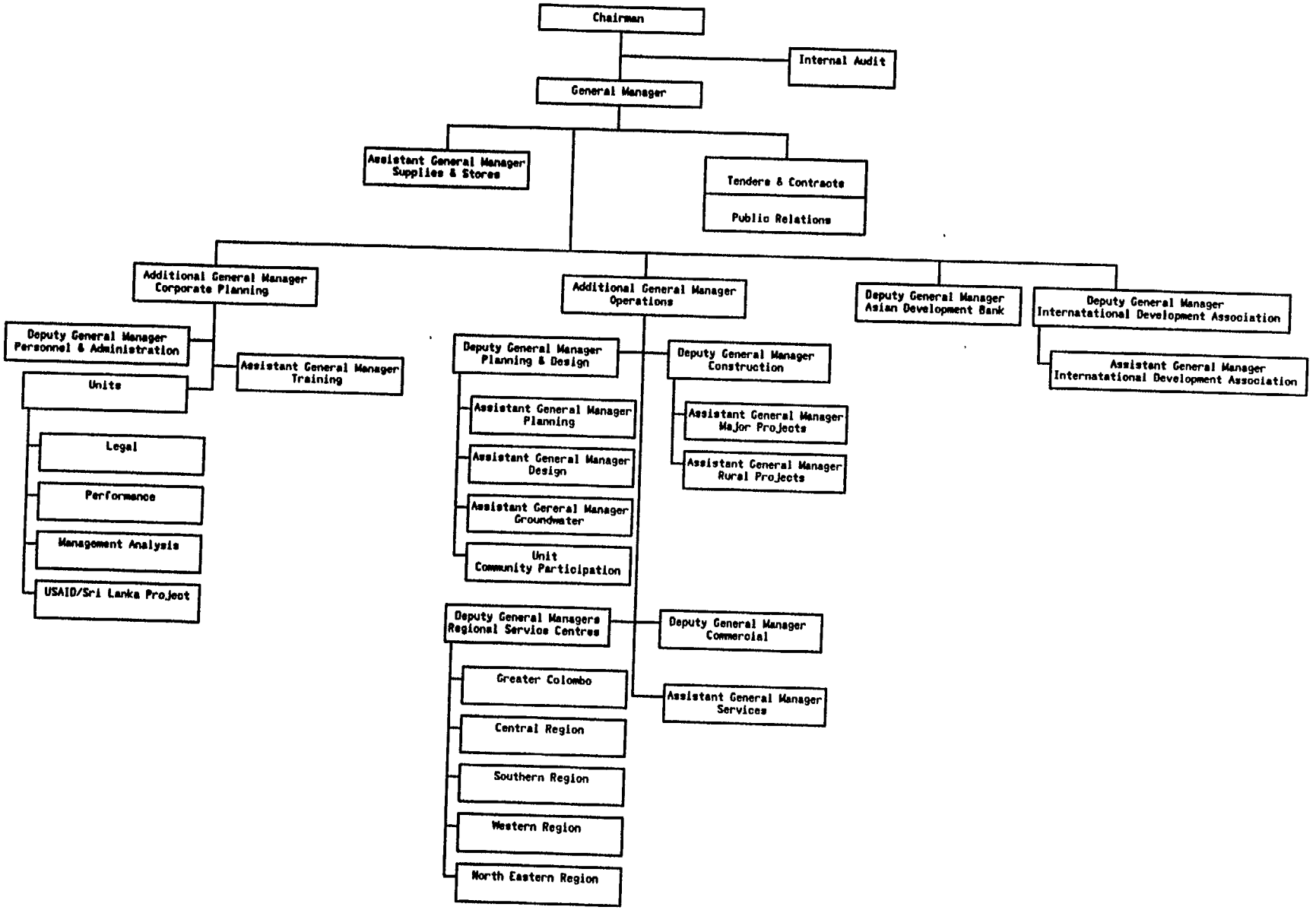
INTER-RELATIONSHIP OF THE VARIOUS PUBLIC ENTITIES
WITHIN THE WATER SUPPLY, SANITATION AND SOLIDWASTE SECTORS

Inter-Relationship of the Various Public
Entities Within the Water Supply,
Sanitation and Solid Waste Management Sectors

Appendix 2

ORGANIZATIONAL STRUCTURE OF THE NWSDB

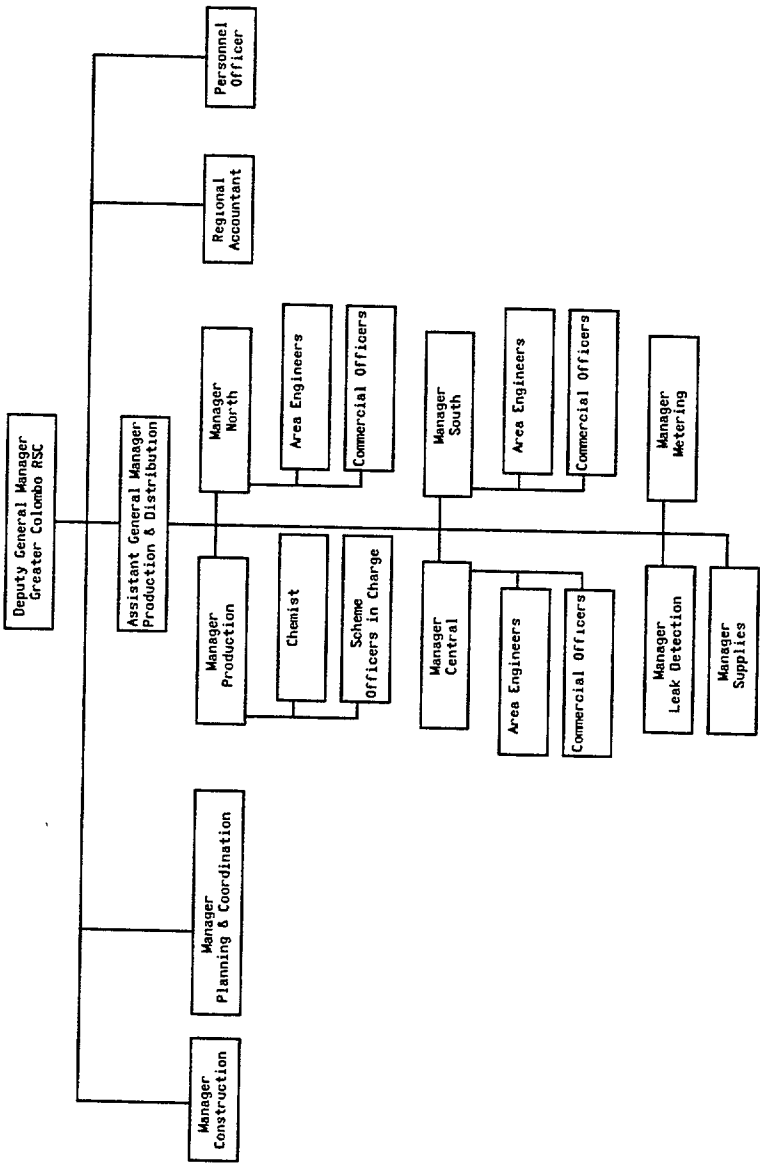
Organizational Structure
of the
National Water Supply and Drainage Board



Appendix 3

ORGANIZATIONAL STRUCTURE
OF THE NWSDB'S GREATER COLOMBO REGIONAL SERVICE CENTRE

Organizational Structure
of the
Greater Colombo Regional Service Centre



Appendix 4

ORGANIZATIONAL STRUCTURE OF THE GALLE MUNICIPAL COUNCIL