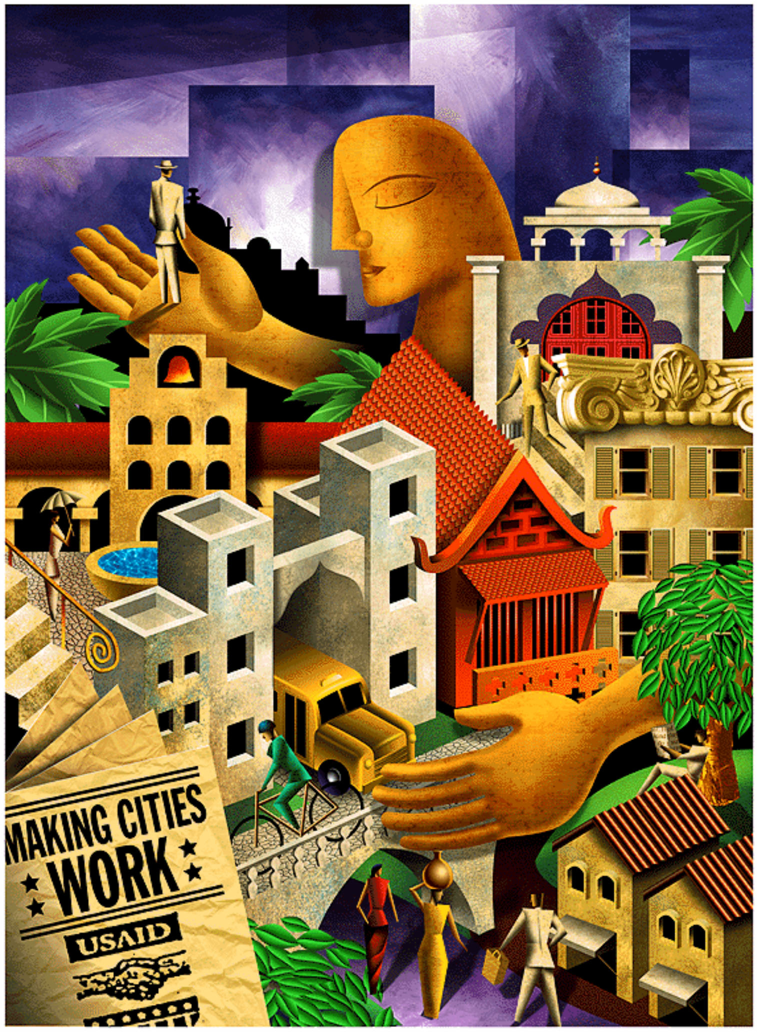

Innovations and Solutions for Financing Water and Sanitation Investments

Planning and Development Collaborative, Inc.

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1. Introduction

The world's developing nations face the challenge of upgrading and expanding their water and sanitation[1] infrastructure facilities so that economic growth will not be jeopardized and to improve the urban environment. To date, funding to finance basic urban services, especially water and sanitation improvements, has been dependent on international assistance, a strategy fraught with risks. Much of the assistance to developing countries has been provided in dollar or other "hard currency" loans while water and sanitation revenues are earned in local currency. If local currency devalues vis-à-vis hard currency, loan obligations can increase dramatically to the point of default. This dependence was an important element in the "Asian financial meltdown" and the near collapse of the Argentine economy. Increasingly, governments in emerging market economies are looking to private markets to help fund their massive water and sanitation requirements. However, domestic banking systems usually view long-term lending for water and sanitation as too risky. Domestic capital markets, made up of the amount and availability of financial resources, institutions and entities that manage, lend and borrow them and rules and regulations that monitor them, provide an opportunity for raising long-term resources and channeling them to water and sanitation projects the developing world's rapidly expanding urban populations require.

This paper presents the strategies, processes and players used by both industrialized and developing countries to finance water and sanitation projects; the paper collectively will refer to these as municipal finance systems. The paper also presents a checklist of conditions for a well-functioning municipal finance system, mechanisms for credit enhancement, such as intergovernmental payment intercepts, guarantees and pooling arrangements, and case studies of local governments success with bond financing of water and sanitation. Finally, the paper suggests ways in which multilateral institutions, bilateral donors, central governments, local governments and the private sector can support the development of self-sustaining municipal finance systems.

1.1 The Water and Sanitation Financing Gap

The urban water and sanitation financing gap is a growing indicator that current funding sources and methods of raising resources are not adequate. The financing gap is key constraint to the realization of universal access to water and sanitation in the developing world. World wide, it is estimated that over a $100 billion must be invested annually. Faced with struggling economies, huge debts and innumerable other socio-economic problems, developing country governments are hard pressed to design, develop and finance the basic urban services they require. Budgetary support to the water and sanitation sector range from 1 percent in Sub Saharan Africa to 3 percent in Latin America and the Caribbean.[2] Current estimates indicate that approximately US$30 billion is spent annually for water and sanitation in developing countries.[3] Of this amount, approximately 70 percent comes from the different levels of government, 20 percent from external aid flows, and 10 percent from international private flows and from domestic community and household investments.[4]

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[1] For the purposes of this paper, water supply refers to a system of delivery of potable water to customers. Sanitation refers to the management of excreta and wastewater but not the disposal of solid wastes.

[2] IMF, et al. Paris21 (Partnerships in Statistics for Development in the 21st Century). *A Better World for Us All – Progress Toward the International Development Targets*. Joint Publication of the IMF, UN, OECD and the World Bank, June 2000

[3] Haarmeyer, D. and Mody, A. Tapping the Private Sector: Approaches to Managing Risk in Water and Sanitation, RMC Discussion Paper 122, World Bank, Resource Mobilization and Co-financing Vice Presidency, Washington, D.C., 1998

[4] Briscoe, J., *The Changing Face of Water Infrastructure Financing in Developing Countries*, International Journal of Water Resources Development, September 1998 and Sunman, H., *Toward an Assessment of Financial Flows in the Water Sector*, Background Paper for the Global Water Partnership for Action, 1999

Despite this current level of investment, resources to improve the water and sanitation sector are woefully inadequate. With 1.2 billion people lacing access to safe drinking water and 2.4 billion lacking access to basic sanitation, the levels of investment will continue to increase as urban populations and expectations do. International targets of annual investments in water and sanitation are expected to grow to $75 billion by the year 2025.[5] For universal water and sanitation needs to be met, the task ahead is enormous.

1.2 The Domestic Capital Market as an Important Element of Development Strategy

The developing world needs to create strong domestic capital markets to address the financing of municipal infrastructure, especially water supply and sanitation. Municipal finance systems are important elements of development strategy because of four fundamental trends affecting countries in the developing world.

Rapid rates of urbanization have magnified the need for infrastructure investment. The World Bank estimates that 46 percent of the world's population of over 5.8 billion lived in cities and towns in 1997. Within slightly more than another generation, the world's urban population is anticipated to be twice the size of its rural population. The United Nations estimates that 2.4 billion people will be added to cities in developing countries between 1995 and 2025.[6] The numbers alone present the impressive scale of urbanization but more important is the impact of this trend on the already taxed urban infrastructure of cities and towns that will further strain efforts to address the needs of the poor.[7] Generating this level of finance will need to involve domestically financed investment by local governments and their water authorities[8] in water and sanitation services.

At the same time that urban investment needs are mounting, decentralization initiatives are transferring greater responsibility for planning and financing investment projects to local and state governments. A number of countries have amended their constitutions to formally assign more service functions to sub-national governments. In all, some 70 nations have launched decentralization initiatives. One of the principal responsibilities being shifted to lower levels of government is control over the local capital budget. On the expenditure side of the budget, local authorities now play a greater role in setting capital investment priorities and in project implementation; on the revenue side, they have greater responsibility for financing their own capital outlays. Local governments will require time to develop the methods and systems to implement these new responsibilities. Expectations must be in sync with local government capacity.

In the last two decades, a sweeping process of democratization has swept across Central Europe and Latin America. The end of the Cold War and the demise of central planning and decision-making in Central Europe have led to the creation of democratic governments throughout the region. A similar trend can be seen in Latin America, where increasing national democratization has extended to the provincial and municipal levels. In the early 1980s, only three countries in Latin America elected their local public officials; today virtually all of the countries in the region

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5 Cosgrove, William S. and Rijsberman, Frank R., *Making Water Everybody's Business*, World Water Council, 2000

6 United Nations Conference on Human Settlements (Habitat II), 1997

7 Burki, S., *Challenges of Rapid Urbanization: Local Strategies to Access Financial Markets*, paper delivered at the World Bank First Conference on Capital Markets Development at the Subnational Level: Bringing Together the Experiences of ECA and LAC, October 1998, Santander, Spain

8 Defined as any local government entity involved in the supply of water and sanitation services.

do so. That translates into elections for nearly every mayor and council member in about 13,000 units of state and local government in Latin America. This trend toward democratization will affect capital markets on two key fronts: 1) local elected officials can be expected to be particularly sensitive to the needs of their constituents, leading to increased demand for long-term financing of infrastructure projects; and 2) democratization and the pressures that it places on governments to distribute development costs equitably can further stimulate municipal borrowing, as these large-scale projects need to be financed over the long-term life of the project.

Finally, fiscal adjustments are driving all levels of government to try to reduce their budget deficits. Government subsidies in the financing of infrastructure projects are rapidly becoming a thing of the past. Studies in different parts of the world have found that capital investment support by central and state governments to cities and towns has been reduced more steeply than any other element of spending during periods of tight budget constraint. To sustain investment levels in the face of reductions in central government capital grants local authorities will have to make greater use of borrowing as a way to finance capital projects and improve revenue generation at the local level.

Private-sector savings must be tapped for well-functioning domestic capital markets will be critical.

2. Rationale for Accessing Domestic Capital Markets for Financing Water and Sanitation Infrastructure

The tremendous growth of cities and towns presented in Section 1.1 makes clear that providing water and sanitation infrastructure in the twenty-first century will pose enormous challenges for most nations of the developing world. Financing water and sanitation projects from central government, multi-lateral development banks or bi-lateral donor agencies is not possible at the scale of the investments required. All but the most prosperous cities lack the resources to fund such projects from their current revenues. Financing through specialized commercial banks will not provide very long-term loans, as their deposits are not of sufficiently long maturities. Commercial banks are largely unwilling to lend in such situations without guarantees from some state entity to cover their perceived risks. Nor are partnerships between government and private companies a panacea for expanding municipal infrastructure. Concession contracts, where the private company takes responsibility for not only operation and maintenance but also for investment in water and sanitation facilities, are extremely complicated, politically suspect, and time consuming to arrange. Many of those that are operational have left governments with considerable contingent liability[9] and dissatisfied populations. Domestic capital markets represent an attractive source of financing for municipal water and sanitation infrastructure.

Many industrialized countries and emerging economies have made use of capital markets for the financing of their basic urban services requirements through bond issues. However, those nations of the developing world that have turned to international capital markets for raising water and sanitation project funds could have serious problems. For example, most water and sanitation infrastructure projects derive revenues denominated only in local currency. When project loans are denominated in foreign currency, the project is exposed to convertibility risks and exchange rate risks. The conversion of local currency into foreign exchange may be impossible because of exchange controls and the transfer of foreign currency out of the country may be blocked by the central bank. If a country's exchange rate devalues, it can result in a local water authority owing more than it is collecting to keep up with payments. Since foreign investors are generally

[9] Liability that is difficult to quantify, or which may or may not come to pass.

unwilling to bear these risks, central government is often required to provide guarantees to foreign investors. However, this merely shifts the risk to national government; it does not eliminate the risk. Argentina has learned this lesson at great pain.

An immediate challenge lies in tapping domestic capital markets to channel domestic savings into profitable water and sanitation projects. A growing number of emerging economies are developing their securities markets and long-term savings institutions, such as pension funds and insurance companies, allowing them to tap domestic capital markets for the financing of urban infrastructure. If the world's developing countries are to finance the tremendous infrastructure needs required to maintain their growth of their economies, they will have to develop the policies and institutions necessary to channel domestic savings into water and sanitation investments. Lessons of developed and developing countries that have been successful in this area can help to develop such institutions.

The creation of self-sustaining domestic capital markets to finance municipal water and sanitation will require a joint effort on the part of many actors. It must engage central government planners working on financial sector reform and fiscal decentralization. It will require the commitment of private sector bankers and other private financial institutions that supply credit. States and provinces will have a role to play. Most importantly, cities, acting on their own or through associations, will need to take the initiative to prepare a commercially viable project stream to shape the credit systems that will aid in financing their investment budgets. In addition, the international donor community must exert leadership in elaborating local credit mechanisms that can evolve into self-sustaining private municipal finance systems.

2.1 Borrowing for Water and Sanitation Infrastructure

It is useful to question when it is desirable for local governments to borrow for water and sanitation infrastructure. Local governments do not have annual cash surpluses large enough to pay for the entire cost of water supply and sanitation projects; it would be irrational for them to do so. Thus, they face a choice. They can accumulate savings in their current account budget until they are able to pay for the entire capital investment, or, if they have access to credit, they can borrow to finance all or part of the project. They then can pay for the project over time.

Borrowing allows a local entity to carry out a more ambitious capital program than otherwise would be possible. In principle, it also promotes intergenerational equity by having the generation of citizens that benefits from a capital facility's services pay for it construction. A standard rule of thumb holds that the period of debt repayment should approximate the useful life of the capital project, so as to match the time profile of costs and benefits. On the other hand, borrowing to cover current administrative and service delivery costs has just the opposite intergenerational effects of paying for capital expenditures from current revenues. It shifts to the future the costs of services enjoyed by today's taxpayers.

Many countries have made access to credit by local entities a hallmark of decentralization policy, and have insisted that local authorities make greater use of debt and less use of state subsidies in financing future capital spending. Yet, most countries that permit local borrowing have established debt limits intended to keep local authorities from borrowing irresponsibly. Many prohibit local authorities from borrowing in foreign currencies. Some require central government approval of all local debt.

The credit systems that need to be developed for local governments should do more than facilitate access to new sources of financing. They should help increase the efficiency of local investment and the efficiency of ongoing service delivery. By requiring local governments to acknowledge the true cost of capital[10], private credit systems can help move local authorities toward more realistic project design and toward better cost recovery practices. The need to repay private sector borrowing often leads to institutional reforms that increase the efficiency of service operations – for example, the restructuring of water supply systems as self-financing and contract managed public utilities. Finally, there are incentives for better financial management. Local authorities that must disclose their finances to the private credit market in order to demonstrate that they are creditworthy come under pressure to take financial management seriously.

A key challenge in expanding the menu of local government financing options in the developing world is in successfully implementing an integrated approach to the development of a market-based municipal finance system. The approach needs to address shortcomings in a variety of competing municipal finance mechanisms, like intergovernmental grants, while at the same time promoting market-based mechanisms, like municipal bonds[11]. Such an approach is necessary to avoid non-market options, like grants, from crowding out market options such as bonds and commercial loans. Grants create in local governments an expectation, usually unfulfilled, that someone else will pay for the water and sanitation services they require. Donor coordination to help implement this approach appears to be essential for its success. Donor support should accomplish a multi-purpose agenda that covers not only direct project costs but also illustrate key reforms and methods to advance the development of country-specific municipal finance systems.

3. Necessary Conditions for a Well-Functioning Domestic Capital Market

A basic set of easily understood principles underlies a sound municipal finance system. Reforms to put them in place in developing countries will bring greater clarity to local government finances, increase the number of creditworthy investment projects, and make it easier for would-be suppliers of credit to enter the municipal finance market, by allowing them to distinguish more quickly and more reliably between good risks and poor risks. It should be noted, however, that few countries in the developing world have satisfactorily established all of the pre-conditions for an effective municipal credit market. The following items therefore can serve as a checklist for a step-wise implementation of requisite reforms. The first set of reforms is required at the macro level with a second level of reforms needed at the municipal level.

Long-Term Savings Pools and Institutional Investors

A key ingredient in the development of domestic capital markets in many developing countries such as Chile, Malaysia and Thailand, has been the establishment of vehicles to accumulate long-term savings and a network of institutional investors who manage such savings.
Long-term savings pools are arrangements under which part of the income of individuals or groups is put aside and returned at a later stage in the form of income, mostly at the time of retirement. They are invested for extended periods in the capital markets and managed by institutional investors, including national provident funds, life insurance companies, private pension funds, and funded social pension insurance systems. Major investors in capital market instruments in mature market economies are rarely individual retail investors; rather they are professional institutional investors who invest pools of funds gathered from retail sources for specific purposes. The most prominent pools of funds are usually those developed from long-term savings. These consist of two main categories, pension funds and insurance funds.
The importance of such funds for the development of a bond market, especially in the case of bond financing of municipal infrastructure, is that they provide potential long-term investible resources. Pension funds are by nature long-term, and insurance

[10] The cost of capital is the rate of return demanded by providers of capital if they are to invest in a particular municipal infrastructure project.
[11] A bond is: a promise by the issuer (in our case, a sub-sovereign government); to pay back the bondholder (that is, the person or institution that purchases the bond); the principal that is being borrowed; plus a specified interest rate; by the maturity date.

At the macro level, the first imperative for domestic capital market development is the accumulation of long-term savings pools that channel resources towards securities, through institutional investors. The most important such pools from the point of view of investments in long-term securities, such as bonds, are pension funds and insurance funds.

Direct measures are required to strengthen domestic bond markets. These include the establishing of a legal framework for securities issue and trading, and for the supervision of such processes by competent authorities. Appropriate regulations are also required for underwriters, brokers, dealers and other entities providing supporting services for the securities market. Adequate disclosure of the financial condition of the issuer for securities holders and a capacity for enforcement of the law in the event of non-payment or other misdeeds is also required.

The list of critical municipal reforms begins with businesslike collection of local taxes and user charges. Local authorities must demonstrate their "willingness–to-collect" to improve the revenue side of their budgets. The city of Ahmedabad, India, for example, moved from serious deficit to surplus and the ability to enter the long-term credit market for the first time, within two years, based on a new city manager's determination to tighten *octroi* collection[12]. Municipalities that wish to start borrowing to finance investment usually have unrealized revenue potential. A serious attitude toward collecting local fees and taxes probably is the first prerequisite both of true decentralization and municipal creditworthiness.

The next level of reforms involves accounting, auditing, and disclosure of municipal financial condition. National policy should establish a clear, comprehensible set of municipal accounts applied uniformly across the country. These local government accounts should be independently audited. The results should be reported to the financial community and to the public at large. This is a very different approach from that now found in many countries, where municipal accounts are audited, if at all, by internal auditors and, though reported to central government, are not released to the public. Without reliable financial data, meaningful credit analysis cannot take place, and municipalities cannot hope to access private capital. Transparency is essential to reducing financial risk.

Regulations allowing municipal bankruptcy would be needed in the event of default.[13] Strains on municipal finances that might show in periods of economic downturn are likely to be combined with declining central government transfers and mounting taxpayer resistance to higher levies. Creditors' rights and the priority of their claims on municipal assets should thus be well specified as these claims would likely be weight against the effects of disrupting the provision of critical public services.

The preparation of commercially viable water and sanitation projects details the capital requirements of local governments. Once a city is ready with feasible water and sanitation investment requirements, local governments need to prepare a several-year rolling capital investment and infrastructure maintenance plan, together with a separate capital budget showing how its priority projects will be financed, and with a project implementation plan to indicate when resources are required. This will avoid the problem of local governments borrowing

[12] *Octroi* is a local tax collected on various articles brought into a district for consumption.

[13] The fundamental objective underlying the enactment of a municipal bankruptcy law is to provide court protection for distressed municipalities, allowing them to adjust their debts in a manner which enables them to continue to provide essential public services. Unlike private individuals or corporations, a municipality cannot liquidate all of its assets to satisfy creditors. Appropriate bankruptcy legislation would provide a municipal debtor with two primary benefits: 1) a breathing spell with the automatic stay; and 2) the power to readjust debts through a bankruptcy plan process.

resources out of sync with project finance requirements. This plan does not have to be complicated – a few pages describing key projects and how they will be paid for may suffice for many towns. Only projects that are ready to go should be placed in the current year's capital budget. For each capital project, there is a financing plan, which indicates how the project will be paid for, including the use to be made of credit. Each year the capital plan is "rolled over" by adding a new year to the planning horizon. Each year's capital budget should include a comparison of last year's actual spending with planned spending. This builds pressure for more realistic capital budgeting based on the municipality's own capacity to produce operating savings and borrow and not merely hope to capture grant funds from the central government.

Central government can help establish a more positive environment for municipal credit by <u>stabilizing the system of intergovernmental transfers and shared taxes</u>. In most countries that are just establishing municipal credit markets, these flows form the largest part of local governments' capacity to repay debt. "Stability" of intergovernmental transfers does not mean that levels must remain fixed, or that central authorities cannot adjust flows to take account of macroeconomic conditions. Rather, it means that the process for establishing transfer levels and allocating the total amount among municipalities is clearly spelled out in grant or tax-sharing formulas; that adequate advance notice must be given to local governments of changes; and that local authorities have the opportunity to participate in discussions with government when the principles of intergovernmental revenue-sharing are modified.

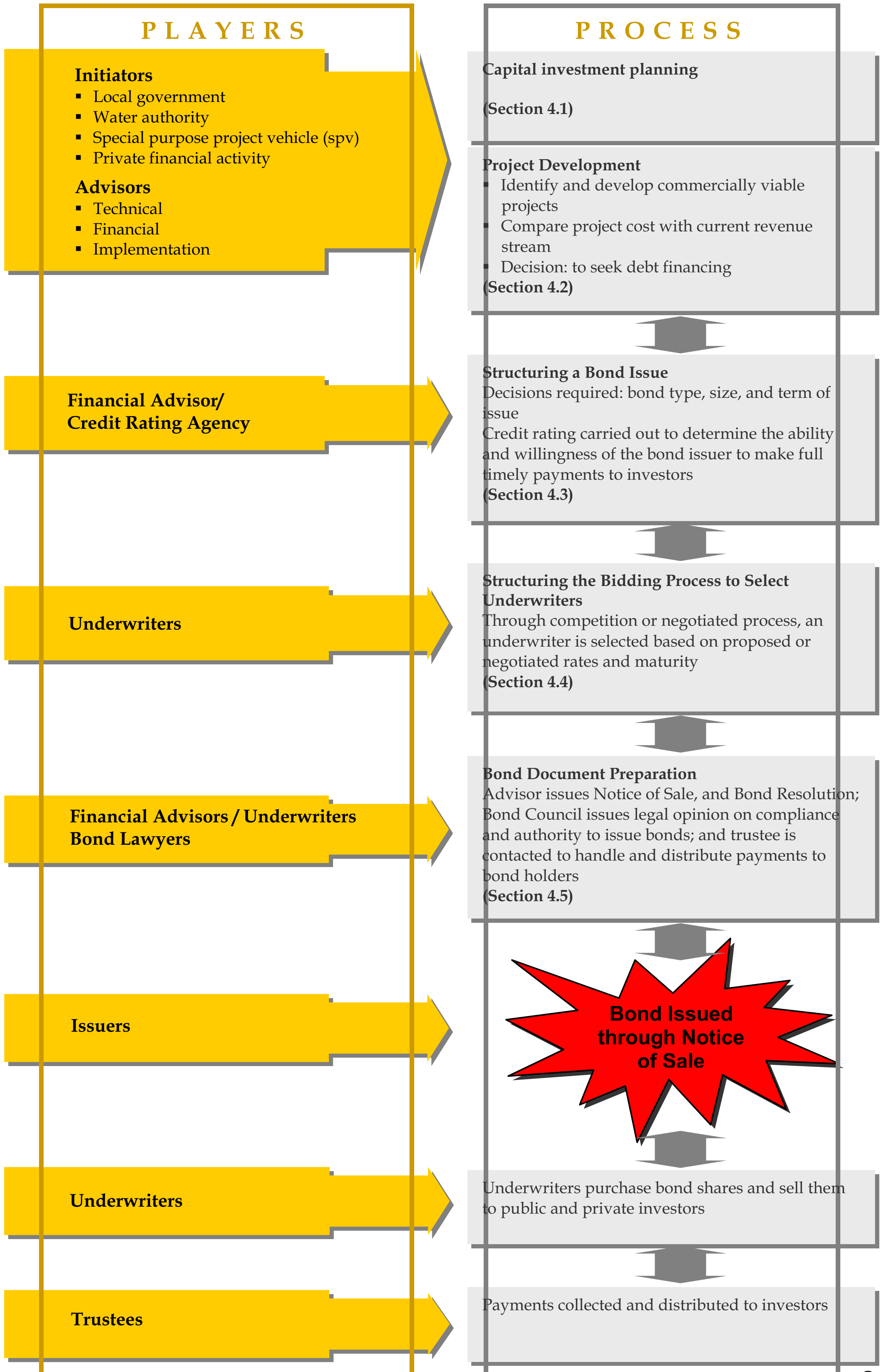
Finally, for those municipalities clearly unable to raise private capital for water supply and sanitation projects, central government should <u>draw a clear line as to what types of local projects it will finance (or co-finance) through targeted subsidies</u>. A policy statement should identify the limited range of projects that will receive subsidies. Government should restrict the list of grant-eligible local investment projects to a range it can actually finance over a reasonable period of time. Its commitments to intergovernmental capital financing should appear as part of central government's own multi-year rolling capital plan. Government should make clear that all other local investment projects would have to be financed from local savings or local borrowing. Clearly drawing the line on subsidy policy is a fundamental step in clearing the way for private financing of local investments. A clear subsidy policy will also target subsidies to those households that actually need them as well as establish "affordability" criteria for capital projects and their corresponding technologies.

The checklist concerns strengthening municipalities' capacity for local financial management and making it easier for outside institutions to get a true reading of local financial condition. The items on the list reflect the fact that the greatest constraint on expanding access to municipal credit is <u>finding clearly creditworthy municipal borrowers that have well-defined investment projects they want to pay for by borrowing</u>. Private financing will be attracted only when cities and municipalities raise revenues to financially viable levels, and local administrations have built a track record of honoring their commitments. Experience to date demonstrates that good projects attract investors.

4. Key Stages in the Bond Issuance Process and the Important Players

Issuing a bond in the domestic capital market, whether in the form of a general obligation bond, or dedicated revenue bond, is accomplished through a process involving a variety of players. While the story of every bond issue is somewhat different, there are several common stages. The purpose of this section is to answer the questions of what are the key stages in the bond issuance process and who are the important individuals involved and what are their responsibilities. A schematic is presented in Figure 1.

Figure 1. ILLUSTRATIVE MUNICIPAL BOND ISSUE PROCESS



Potential issuers of bonds to finance municipal water and sanitation projects should be aware that there are differences in the bond issuing process based on the specific bond issue and the market in which money is being borrowed. What follows, therefore, is a general description that must be tailored to different approaches and markets.

4.1 Capital Planning Process

Local water authorities need to make a series of decisions before they decide to enter the capital markets. These decisions are often more effectively made when integrated into a comprehensive and coordinated capital improvement plan. A capital improvement plan is a strategic program for funding needed water and sanitation improvements which: 1) looks comprehensively at capital needs; 2) prioritizes among those needs to identify specific worthy projects; 3) considers different funding sources for each project, and their pros and cons; and 4) in light of the above, develops approved capital budget expenditures for each year within established debt limits. In order to work well, capital budgets need to be derived from the capital improvement plan. In fact, it is the capital plan that should drive the capital budget, not the other way around.

Development of a capital improvement plan offers numerous practical benefits. First, the process requires the municipality to define its needs and priorities, establish criteria for judging among needs, to consult with the community and other stakeholders, and to make sure its proposed projects are coordinated with available resources and border municipal policies. A participatory process to establish priorities is extremely important, as it will effectively highlight those projects with a real prospect of going forward. Elaboration of a capital improvement plan can help rationalize and increase the transparency of government decision-making and build public support for the agreed-upon projects. Second, the plan serves an important management function, as it requires municipal managers to assess key needs in light of changing demographics and other development requirements. The plan also matches desires with resources and expertise, and makes sure that each individual project make sense as part of a broader comprehensive development strategy. Third, the capital planning process can assist municipalities in looking beyond day-to-day demands and consider a broader vision for what their city should look like in the future. Finally, a well-structured capital plan can give private sector investors greater faith in the municipality’s financial management capacity, thereby encouraging increased investment. In fact, credit rating agencies look at a capital planning process as one indicator of the strength of a local government’s financial management capability.

At this stage, a <u>financial advisors</u> might be hired by a local authority to assist with assessment of its borrowing capacity and projecting revenue flow estimates, development of a long-term borrowing plan that include bond transactions, development of policies for debt management, cash management and improved credit condition, assessment of the taxing authority of the issuer and the nature of intergovernmental transfers and their use as security for the bonds.

4.2 Project Identification and Development Stage

A crucial step prior to seeking finance in the domestic capital market for water and sanitation investments is to identify commercially viable projects. The fundamental lesson for local water authorities is that commercially viable projects attract investors. The municipality may want to engage technical, financial and project implementation advisors to assist in the requisite analyses. While there are many sound approaches to this process, in general they entail the following elements:

- A situation analysis which reviews population and economic trends, municipal finances and current and projected service gaps. Next, these gaps are translated into projects, which are then assessed in terms of costs and benefits as well as lending terms and pricing mechanisms. Finally, a financial and operating plan is developed that reflects the municipality's physical needs and financial capacity to operate, maintain and expand its water and sanitation systems.

- Project identification is based on information that will facilitate the assessment of the commercial potential of a project. If the basic conditions that emerge appear to be strong, project development is taken a step further with a feasibility analysis based on a more detailed social, financial viability and institutional analysis.

- A project feasibility analysis calculates the rate of return on the investment by analyzing the costs and revenues of the project; looks at pricing and cost recovery issues and may recommend water tariff, tax or subsidy revisions that would yield revenues necessary to sustain the planned investments and targets user subsidies if required; assesses institutional arrangements; and presents options for mitigation of related risks and adverse factors.

- If the outcome of the feasibility analysis is favorable, the process will proceed to a project implementation plan and detailed project design.

4.3 Structuring the Issue

Decisions made during the bidding process will affect the structure of the issue. With a competitive bidding process, the key structural matters will need to be resolved with a financial advisor before underwriters can bid. Under a negotiated sale arrangement, however, the underwriter will be able to play a major role in the structuring decisions with the issuer.

Financial advisors can also prepare a preliminary structure in the competitive-negotiated process and allow the underwriters to suggest changes or refinements in their proposals. Credit rating agencies may play a role in structuring if the issuer is trying to achieve a certain rating grade.

Of the many decisions taken in structuring a bond, several are particularly important:

- **Type of Issue.** There are two principal bond types; general obligation and project revenue bonds. A key decision is whether the bond issue will represent a general obligation in which bonds are backed by the full faith, credit, and taxing power of the issuer and obligated to be used for the repayment of the bonds, or will be backed by project revenues. This determination in turn drives many other decisions, including the market's eagerness to purchase the debt, the types of information required by rating agencies, and the types of legal documents needed.

- **Sizing the Issue.** An important step in structuring a municipal bond issue is determining its size. The size of an issue will depend primarily on an issuer's particular needs. An issuer may use proceeds from bond sales. To cover the expense of the issue, such as fees for legal and financial advisors; pay interest on bond security; fund a debt service reserve fund; and/or fund other forms of credit enhancement

- **Credit Rating.** The financial advisor and/or underwriter generally play a substantial role in helping the issuer through the credit rating process. Credit ratings are: independent assessments of the ability and willingness of a borrower to make full and timely payments; opinions as to the credit quality of the issuer throughout the life of the bond. Credit ratings are not: recommendations to buy, sell or hold a security; opinions about the correctness of a municipality's policy decisions; or opinions about the general quality of a government. Credit ratings are important from both the investor and issuer perspective. Ratings provide essential information to the investment community and facilitate access by investors to debt offerings. They also affect the costs to both sides of buying and selling debt. Credit rating agencies are contracted by the issuer of the bonds to provide the rating service.

- **Obtaining Credit Enhancement.** An issuer may address investor concerns about credit risk by obtaining some form of credit enhancement. Credit enhancement is a means of strengthening or enhancing the rating of a bond. Credit enhancement will not only increase a bond's marketability, it may also save the issuer money by allowing it to sell the bonds at a lower interest rate. One form of credit enhancement is bond insurance, a legal commitment by an insurance company to make payments of principal and interest on debt in the event that the issuer is unable to make payments on time. This and other forms of credit enhancement are discussed in greater detail in Section 5.

- **Issuing at a Discount or a Premium.** Bonds may be sold at, above, or below par value (100% of face value of a the bond). Bonds issued below par value are sold at a discount. The issuer collects proceeds from the sale below the total of the par value of all the bonds issued, and yet pledges to pay back the total value at par. This approach allows an issuer to offer the bonds at a lower interest rate. Bonds issued at a premium are sold above par value. In this instance, the interest rate is higher than it would be if bonds were issued at par. The general interest rate environment at the time of sale normally determines whether an issuer decides to sell bonds at a discount or at a premium. An expert financial advisor can analyze the advantages and disadvantages of each option.

- **Determining Final Maturity Date.** The final maturity (or term) of a bond is based primarily on the financial condition of the issuer, market conditions, the availability of long-term investments and the type of project being financed. If an issue is used to finance a municipal water and sanitation project, the final maturity of the debt ideally should be tailored to the expected life of the completed project. If for example, bonds are issued to finance a water supply project that is expected to last for 30 years, the final maturity may be anytime within 30 years.

  For most emerging market issuers, however, it may not be possible to issue a bond for the expected life of the asset. Domestic capital markets for emerging market issuers are too volatile and underdeveloped to allow the term of the bond to match the life of the projects assets being financed. Nevertheless, as these markets develop and demand from pension and insurance funds for longer-term bonds grows, issuers may be able to increasingly offer longer-term bonds for their projects. An issuer's decisions regarding final maturity may also be affected by investor preferences or by negotiations with rating agencies.

4.4 Structuring the Bidding Process

Once a municipality or local water authority with its advisors decides to issue debt, among their first tasks will be the selection of an underwriter. The two principal methods of soliciting bids from underwriters are: **competitive sales** and **negotiated sales**. In a **competitive sale**, the municipality first structures the issue (see section 4.4), with assistance from a financial advisor, and then advertises it to identify an underwriter. Underwriting firms submit bids based on their evaluation of the chance of successfully selling the bond, as structured, to investors; the issuer selects the bid with the lowest cost to the issuer. The principal advantage of a competitive sale is that it increases the possibility that the issuer will receive the lowest available price for an underwriter's services. In competitive bidding, the issuer must set the date and time of the sale prior to advertising the sale to underwriting firms and this may prevent the municipality from exploiting sudden changes in the market by adjusting the time of the sale.

In a **negotiated sale**, an issuer negotiates pricing and structuring directly with an underwriting firm, which typically takes place relatively early in the process. A negotiated sale optimizes the issuer's ability to take advantage of rapidly changing market conditions. The date of the issue is not set in stone, and if market conditions warrant, the sale may be delayed or expedited. A negotiated sale may be particularly appropriate in times of general interest rate instability. The principal disadvantage of a negotiated sale is that the bidding process may result in a comparatively higher underwriting costs.

The underwriter commits to purchase the bond shares from the issuer, resell them to investors and commit to purchasing any remaining bonds that have not sold. This risk spurs underwriters to price bonds carefully and create syndicates with other firms. Most underwriters are investment banks, securities firms or commercial banks. Many bond issues involve more than a single underwriting firm. The lead underwriter may choose to form a syndicate comprising several bond dealers and other underwriting firms so as to spread the risk of the sale of the bonds to investors.

4.5 Document Preparation

Decisions in terms of bidding and structure will also shape the preparation of bond documents, in which the financial advisor, underwriter, and bond counsel all play a role. A bond counsel is an attorney (or firm of attorneys) retained by the issuer to give a legal opinion that the issuer is authorized to issue proposed securities, the issuer has met all legal requirements necessary for issuance. While documents differ based on structure and the particular market, issuers should be familiar with the major ones:

- **Notice of Sale.** A notice of sale is used when bonds are being issued in a competitive sale. The notice is published to seek underwriters and contains essential information describing the bond issue, so that underwriters will be able to bid. A typical notice would include information about the size of the issue, maturity and other provisions; authorization for the bond sale; type of bond and description of its purpose and security; names of bond counsel; bid form and a description of the basis of award; the maximum interest cost considered acceptable; and information about the time, place and date where bids will be accepted.

- **Legal Opinion/Statement of Bond Counsel.** In the legal opinion, the bond counsel confirms that the issuer has complied with all legal requirements. This includes assurances that the issuer has the legal authority to issue bonds, that the revenue source for bond repayment is legal and irrevocable, and that provisions of the bond legally bind the issuer. However, this is not a judgment about the issuer's ability to repay the bond.

- **Bond Resolution.** The issuer passes a bond resolution, which authorizes the issue of the bond, describes its essential terms, lists the obligations of the issuer, and approves any trust indenture.

- **Trust Indenture.** This is the contract between the issuer and the investor/underwriter, represented by the trustee. The trustee is responsible for carrying out the administrative functions that are required under the bond documents. These functions include establishing the accounts and holding the funds relating to the debt issue, authenticating the bonds, maintaining a list of bondholders, disbursing principal and interest payments` on the debt, and representing the interests of the bondholders in the event of default. The primary clauses usually included in a Trust Indenture of concern to the bondholders include the rate covenant and additional bond clause.

- **Rate Covenant.** The rate covenant is a promise by the issuer that the rate structure of the tariff or taxes supporting the project will be increased as needed to continue to support the full cost of operations, maintenance, and debt service.

- **Additional Bonds Clause.** The additional bonds clause often contains a lien that establishes the conditions under which the issuer can issue more bonds in the future, insuring that the original investors are protected against any reduction of their repayment schedule. This is important to the bond holders especially in the event of default.

- **Bond Purchase Agreement.** This agreement is made between the issuer and the underwriter. It contains information regarding the price of the bonds, the terms of the sale, the interest rates, and the conditions that each party must meet.

4.6 Distribution/Marketing

During this phase, the underwriters and bond dealers actually sell the bonds to investors. The lead manager is responsible both for stabilizing the market for the bond during this process, and also for coordinating the activities of those involved in the underwriter's syndicate. Bonds can be offered either all at the same time, or in tranches, based on the experience of the initial tranche. For local governments, a significantly oversubscribed issue is frequently interpreted as a vote of confidence by the market. Alternatively, it could be argued that oversubscription signifies that the interest rate paid by the issuer may be too high.

4.7 Ongoing Activities

After the bond is issued activities continue. The trustee remains responsible for protecting the interests of the bondholders, while the required interest payments must be made regularly (often through a paying agent). In addition, the credit rating agencies will continue to assess the bond issue throughout its life.

5. Enhancements for Encouraging Domestic Capital Market Financing

Even given an available pool of domestic savings, established investment tools, like bonds, for mobilizing finance for water and sanitation projects, and a sound legal and regulatory framework to promote investment, some initial measures may be needed to give incentives to potential investors and to help mitigate risk. These enhancements can play an important role in fostering demonstration project to help establish the credibility of the government's commitment to domestic financing of water and sanitation infrastructure. Such enhancements essentially constitute a form of "insurance" against project risks and help domestic capital markets to price the cost of capital at more attractive rates.

5.1 Credit Enhancements

Water and sanitation projects by their very nature are highly risky. In most instances, debt financing is only likely to be forthcoming if risks can be adequately reduced through credit enhancements or support mechanisms. In order to increase the attractiveness of bond issues for water and sanitation, government can take a pro-active role by instituting mechanisms for credit enhancement, such as different types of targeted guarantees, escrows, intergovernmental transfer intercepts, partial subsidies, among others.

5.1.1 Partial Guarantees

Partial guarantees assure payment of debt service to lenders up to a specified level, thus addressing long-term credit risk concerns. Partial guarantees can help lenders better manage their balance sheets and funding operations and therefore aim at facilitating the participation of local investors. Partial guarantees can also be specifically targeted to institutional investors who can already provide extended maturities, but may not be willing to do so in specific projects without a risk reducing guarantee.

5.1.2 Bond Pooling Structures

Access to municipal credit markets is often cost effective only for large municipalities or water and sanitation authorities that need to mobilize large amounts of debt financing through individual bond issues. In order to cater to the needs of the vast number of small and medium sized cities throughout the developing world, it would be prudent for decision-makers to explore the possibility of bond pooling arrangements at state or regional levels as is being practiced in Europe, the United States and several emerging economies.

In a number of U.S. states, state-level bond banks[14] have been created to support borrowing by smaller municipalities, who otherwise would find it difficult to directly tap the capital market. State bond banks can encompass a variety of state financing structures that, as a common characteristic, sell their own securities in the public bond market and re-lend the proceeds to local governments. In doing so, they provide municipalities access to the economies and efficiencies of the municipal credit market – especially smaller cities and towns lacking the financial expertise and credit history to go to the bond market on their own. At the same time, by pooling a number of smaller issues and backing them with the states' credit, the bond banks further reduce the cost of borrowing for the municipality. State bond banks have been especially active in providing financing for community water and sewer needs, and they most often operate as independent financial institutions with professional management.

Under a long-term bond pool operation, a bond bank will issue bonds and use bond proceeds to purchase debt obligations of municipalities. Bondholders generally are secured by loan

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[14] For more information see Government Finance Group, Inc., An analysis of State Bond Banks, council of Infrastructure Financing Authorities Monograph No 9, Washington, D.C., 1997

repayments from the pool of local borrowers as opposed to only one locality, and in some cases have additional credit enhancement from the state. Because of the diversification offered in the pool, investors generally require lower interest rates than if they were purchasing a single obligation from one municipality. In addition, the pooling concept provides certain economies of scale by spreading fixed costs of issuance (e.g., rating fees, advisory fees, legal fees, etc.) across several borrowers. Economies can also be enjoyed by negotiating lower fees for bond insurance and gaining coverage for smaller loans that would not be insured on a stand-alone basis.

Most states are able to obtain additional interest rate savings for local borrowers by pledging some form of state credit enhancement to bond bank issues. Of particular relevance to developing countries are credit enhancements such as debt service reserve funds and the state transfers payment intercept provisions which could aid in not only lowering interest rate cost but also by encouraging investors to purchase less risky bonds with longer maturities. Many U.S. bond bank issues include a debt service reserve fund that is equal to maximum annual debt service that can be drawn upon in case of default on debt service payments. Many U.S. bond banks also have the statutory authority to intercept intergovernmental payments to local governments if the latter should default on their obligations to the bond bank. This intercept mechanism is viewed most favorably when local governments depend on state transfers for a large proportion of their revenues and when the transfers can be redirected immediately from the bond bank to the investors.

5.2 Other Enhancement Mechanisms

5.2.1 Construction Revolving Fund

Similar to the bond banks in the U.S., a public and/or private fund can provide construction financing or guarantees for municipal infrastructure projects. Once these projects establish an operating track record of repayment they can be refinanced on a stand-alone basis in the private market or the guarantee can fall away.

Depending on a number of factors, refinancing of such municipal water and sanitation projects can take place on a pooled or individual basis. The refinancing proceeds received can then be subsequently reinvested in the construction financing of new projects. Thus, moneys in the loan fund constantly “revolve,” or are recycled to new projects.

5.2.2 Bond Insurance

A government or private insurer, possibly backed up by multilateral or bilateral support, could provide credit insurance for the debt issued by municipalities for their water supply and sanitation projects. Bond insurers issue insurance for an entire issue or specific maturities that guarantees to pay principal and interest when due. This improves the credit rating of the bond issue and thus lowers borrowing costs for the bond issuer.

Bond insurance has played an important role in the growth of the U.S. municipal bond market. Individual investors rely on bond insurance to enhance the quality of the assets they are willing to hold. Yet bond insurance in the U.S. has not been a vehicle for allowing non-creditworthy issuers to have market access. Rather, the insurance by top rated insurance companies allows small issuers considered less credit-worthy to access the national market for high investment grade debt.

6. Accessing Domestic Capital Markets for Water and Sanitation – Developing Country Success Stories

6.1 Ahmedabad Municipal Corporation Bond Issue

Ahmedabad, the commercial capital of the Indian state of Gujarat, is the largest city of the state and the seventh largest city in India. During the early 1990s, the financial situation of the Ahmedabad Municipal Corporation (AMC) was under severe strain. In late 1994, AMC launched a major effort to improve collection of *octroi* and property taxes while at the same time taking an important step to professionalize its workforce. For the first time in India, the city recruited certified chartered accountants and recent graduates with MBAs. At the request of AMC, USAID began to provide targeted technical assistance to the city and build its capacity in municipal accounting and financial management, project management and non-tax revenue generation that would improve the AMC's overall financial position.

In addition to technical assistance to improve AMC's overall financial position, USAID funded an urban environmental mapping exercise, which produced a series of city maps focusing on water supply, sewerage systems and other municipal services. The utility of the maps was to demonstrate, for example, the correlation between areas underserved by sewers and those with a high incidence of gastroenteritis. This was followed by an analysis of environmental risks which identified and ranked a variety of urban environmental health threats such as water pollution in terms of their severity, impact, mitigation costs and other factors. Through discussions with policy-makers, academics, community leaders and other stakeholders, an action plan was developed to combat the risks identified.

Once the city was ready with infrastructure investment requirements, USAID, in association with Bombay-based Infrastructure Leasing and Financial Services, Ltd. (IL&FS), worked with AMC to prioritize its investment proposals, conduct detailed financial analysis of proposed investments, and assist in the technical and financial aspects of a water supply and sewerage project. Project development was accomplished through working sessions that reviewed and updated feasibility studies, established project costs based on current and projected materials and labor estimates, and devised an implementation plan that brought together the technical and financial engineering to identify when funds were needed for technical inputs and scheduled borrowings and bond issues accordingly.

In 1996, Ahmedabad became the first urban authority in India to request and receive a rating for a municipal bond issue for water and sewerage expansion. Credit Rating and Information Services, Ltd., India's premier credit rating agency (which also received USAID support to form a municipal rating department), assigned Ahmedabad an "A+" rating (out of a possible rating of AAA) for a bond issue of Rs. 1,000 million (US$29 million) which was more than sufficient to go to market. AMC appointed IL&FS as the investment banker for the bond issue that was developed as a structured obligation (SO) with the escrow of *octroi* revenue of AMC (which was to be monitored by an independent trustee) and a special covenant on additional revenue mobilization. With such a structure in place, the bond rating was enhanced to "AA (SO)." Ahmedabad's water and sewerage projects were subsequently financed through proceeds from the bond issue, AMC's own revenue, a loan from IL&FS using funds made available through USAID's Urban and Environment Guaranty Program and other financial institutions including the Housing and Urban Development Corporation and the Life Insurance Corporation of India. Ahmedabad's local government has learned to use bonds as a financial tool to raise investments for its capital investment priorities and scheduled the issue of its third bond

6.2 Philippines Local Government Unit Guarantee Corporation Bond Issue

In the past, the greatest portion of funding for Philippine municipalities, cities and provinces came in the form of grants from the Government of the Philippines or subsidized credit from government-owned banks. In 1996, however, continuing budget deficits encouraged the national government to institute credit policy reform designed to phase out government subsidized credit and all government directed programs. At the same time, they implemented a decentralization program whereby local authorities have assumed a growing share of the financial responsibility for their capital improvements. Increasingly, municipal financing must be mobilized from private domestic sources through more efficient local credit markets.

The Manila-based Local Government Unit Guarantee Corporation (LGUGC) is a domestic financial institution established to encourage the flow of private capital to creditworthy municipal infrastructure projects. LGUGC is a public-private joint venture owned by the Development Bank of the Philippines (49 percent) and the Bankers Association of the Philippines (51 percent). Its goal is to provide a market-based guarantee fund for loans to local authorities targeted at sustainable, financially sound infrastructure projects that can repay debt in a timely manner. LGUGC offers guarantees to private investors and lenders on local government infrastructure projects that meet its underwriting criteria. The criteria feature a screening process that results in a uniform system of local government credit rating countrywide. Over time, it is expected that an increasing number of LGUs will take necessary actions to receive a favorable credit rating and design self-sustaining infrastructure projects.

USAID's Development Credit Authority (DCA) provides a partial guarantee of LGUGC's guarantees on local infrastructure project financing. The first LGUGC project co-guarantee was the local currency equivalent of a US$8 million bond issue for Puerto Princesa City to finance low-income housing and related infrastructure. LGUGC's pipeline of projects that are likely candidates for the DCA co-guarantee include water systems and solid waste facilities.

6.3 Tamil Nadu Water and Sanitation Pooled Fund

Since 1988, the Government of Tamil Nadu[15] has been implementing the Tamil Nadu Urban Development Project (TNUDP), financed by the International Development Agency (IDA) and the World Bank. The TNUDP is a major multi-sector, multi-town urban development project, of which one component was the Municipal Urban Development Fund (MUDF). This fund was established to provide debt finance to city governments on a pilot project basis.

The successful track record of MUDF encouraged the state government to partially privatize the fund, with a view to attracting private capital into urban infrastructure and facilitate better performing municipalities to access capital markets. In 1996, the state government invited three local financial institutions, ICICI Bank, Housing Development Finance Corporation and Infrastructure Leasing & Financial Services Limited, to purchase 51% of the MUDF and convert it into a trust, the Tamil Nadu Urban Development Fund (TNUDF), with a private fund manager to deploy resources of the trust. Accordingly, TNUDF was established as a trust under the Indian Trusts Act as an infrastructure development financial intermediary to finance urban infrastructure requirements throughout the state.

[15] Tamil Nadu is a large state in the southeastern corner of India with an estimated 2001 population of 61 million. Its capital city of Chennai (Madras) has a population of over 6.2 million.

In order to facilitate small and medium towns' and cities' access to the domestic capital market, a Water and Sanitation Pooled Fund (WSPF) was organized as a pure debt fund. WSPF acts as a bond bank with a reserve fund coming from the state government. The funds raised by bond issues are disbursed as sub-loans to the participating municipalities. An asset management company, Tamil Nadu Urban Development Infrastructure Financial Ltd., 51 percent owned by private investors and 49 percent by the state government, manages the trust.

For the purpose of debt service, the WSPF requires municipalities to maintain an amount equivalent to their respective one year debt service payments in short term fixed deposits of AAA corporate or highly liquid investments, such as government securities or treasury bills. The cash flow/bank account (also known as current account) of the local authorities will be escrowed to the extent that, at a minimum, amount equivalent to one year principal and interest is available in the escrow account, 90 days prior to the due date of debt servicing.

Apart from this escrow, a separate Debt Service Reserve Fund (DSRF) has been established and maintained by the state government in the form of low risk, short term fixed deposits. The amount of the DSRF will be equivalent to 1.6 times the principal and interest payments due to bondholders. In case of default of the escrow mechanism, the DSRF will be automatically triggered for servicing the bondholders. Through a government order, state government will replenish the DSRF, if necessary, by intercepting state disbursement of transfer funds to the municipalities.

As a final means to ensure repayment to bondholders, up to fifty percent of the outstanding principal and interest payments are guaranteed by one or more Indian financial institutions, while up to 50 percent of these payments are guaranteed by USAID's Development Credit Authority. With up to 50 percent of the bond issue repayments guaranteed by a strong, private sector financial institution, and up to another 50 percent guaranteed by the full faith and credit of the U.S. Government, Indian credit rating agencies and institutional investors view these bonds as attractive investment opportunities. A schematic of this pooled fund arrangement is found in Annex A.

The Water and Sanitation Pooled Fund issued its first bond in November, 2000. The first bond was the first non-guaranteed, unsecured bond issue by a financial intermediary in India with urban municipal cash flow as its repayment basis. The bond issue of US$ 21.3 million was over-subscribed by $1.3 million, carried an interest rate of 11.85 per cent and a 5 year term and was considered to be a tremendous success. WSPF issued a second bond in December of 2002 in the amount of approximately $6.47 million. It was allotted to bond holders on December 20, 2002. Bondholders are three banks and two private provident funds. The second bond issue was a great success in for it carries an interest rate of 9.20 per cent per annum compared with the 11.58 percent of the first and a term of 15 years compared to the 5 year term of the first. It is the first privately-placed infrastructure bond with a 15 year term.

7. Opportunities for Public-Private Cooperation to Facilitate the Development of Domestic Capital Markets to Finance Water and Sanitation

Local authorities can be categorized into three groups based on their "readiness" to access domestic capital markets for water and sanitation financing. Financial condition, managerial skills, and, to a certain extent, size each contribute to the estimation of credit quality and possible private market access. The first group includes those jurisdictions that already have access, but could enjoy more and better options given a supportive policy and regulatory environment[16]. The second group potentially can have access to domestic capital markets, with various forms of help. And a third group consists of jurisdictions that cannot access the market, even through market-oriented intermediaries[17].

A central question is how to assist jurisdictions that do not now have the resources to be self-financing or have an adequate tax base. If the central government chooses to assist these jurisdictions through a predictable and stable system of intergovernmental transfers, even smaller municipalities can have adequate local revenues. Revenue streams from both local sources and intergovernmental transfers can be used for capital investment in water and sanitation infrastructure. Key to project design and standards is the consideration of "affordability". The type of technology and level of service provided are the major factors determining the affordability of water and sanitation systems. The idea of a progressively developed urban service merits attention, as does the use of low cost technology.

If a community has reliable revenue streams, then it belongs to the second group and access to borrowed capital should, in principal, be available. Private markets may still not serve these jurisdictions because of the small size of their financing needs, their inability to do analysis and planning, their inability to deal with capital markets concepts and practices, or their inability to design and develop creditworthy urban infrastructure projects. For this group, market intermediaries and technical assistance could be made available to help bridge these gaps. This middle group of potential borrowers is the focus of this section.

Central governments can provide an environment to promote marketability of local authorities' debt. Appropriate macroeconomic and regulatory policies – especially those which are conducive to the accumulation of investible resources through long-term savings pools – are a large part of what needs to be done to help municipalities have access to borrowing. Several questions arise when considering assistance for local governments in the two groups that do not have access to the market. What forms should such assistance take in order to encourage private capital market participation and to minimize "crowding out"[18] of private capital providers? How should developmental resources be allocated? Finally, what administrative and technical assistance should be used to deliver assistance?

The need for technical assistance and the commitment of the donor community to stay the course over the mid- and long-term to support technical assistance is critical to generating a functioning municipal finance system accessible to cities willing and able to improve their financial, technical and operational capacity to deliver water and sanitation services.

7.1 Types of Assistance

Assistance in accessing capital markets can take several forms. These can be grouped into technical assistance or financial assistance. Three basic questions should be asked to judge whether to use a particular type of assistance:

[16] Government should ensure that framework policies, which safeguard a fair and efficient marketplace for both municipalities and investors, adequately reflect the needs of the economy for water and sanitation services. Furthermore, the policy and regulatory environment governing a municipal credit system should create conditions that promote competition and innovation. Governments should continually review regulations and practices affecting the marketability of municipal debt in cases where it is clear that market forces are not providing adequate direction.

[17] A third party who facilitates a deal between two other parties.

[18] A situation in which government is borrowing heavily while businesses and individuals also want to borrow. The former can always pay the market interest rate, while the latter cannot and is crowded out.

- Does the assistance leverage private sector investment?
- How likely will this assistance crowd out private-sector capital?
- Does the assistance increase the risk of local entities borrowing irresponsibly or investors lending irresponsibly thinking central or state government would bail them out (i.e., moral hazard[19]); that is, how likely will it be misinterpreted as a form of state guarantee?

7.2 Technical Assistance

Technical assistance that helps familiarize local authorities entities with domestic capital market practices, helps them develop commercially viable projects, and helps them become more "creditworthy" will be most likely to leverage private sector capital. It is least likely to crowd out private capital and the most likely to attract its interest. It also is least likely to raise moral hazard risk. Technical assistance and training expands managerial skills and encourages more efficient financial practices. Particular attention needs to be paid to improving the credit standing of potential municipal issuers to expand the municipal tax base, rationalize tax rates, develop municipal water and sanitation projects, and prioritize infrastructure investments on the basis of those which have large pay-offs in helping cities develop services, expand business and increase employment. Technical assistance can also create an awareness of appropriate technologies that correspond to the financial capacity and service level demand.

A municipal authority's credit quality is critical to investor acceptance and confidence in a municipal bond issue. Assistance to municipalities in establishing the "true-costs"[20] of the water and sanitation projects for which they seek financing is critical to the preparation of commercially viable projects that are acceptable to investors. A "commercially viable" project is one that establishes the true costs of a project to be covered from a variety of sources as managed by the city. The issue is knowing from where resources will come, and allocating them to pay operating and maintenance costs of the system as well as the repayment of debt incurred to finance the expansion of the system.

Credit rating entails a thorough review by a rating agency that measures a local authorities' ability to service debt in light of available taxes and other resources, and assess their record in honoring financial commitments, especially under adverse circumstances. Where municipal credit rating agencies do not exist, the donor community should support efforts for their creation. Once in place, local authorities can be assisted to avail themselves of a credit rating by a recognized rating agency. A local authorities should not fear "failing" a credit rating effort but view the rating process and the observations made as its agenda for improvement, especially if the rating is less than needed to attract investors. Technical assistance can address identified issues, and, once improvements are made, a new rating can be sought.

As a practical matter, technical assistance is far more effective when it is focused on the transfer of successful methods and knowledge. Technical assistance and training should create local institutional and technical capacity. Technical assistance and training that is most supportive to capital market access is found in capital planning, cash flow projections, and project design, implementation and management. These disciplines allow the municipality to work with budget constraints; to practice matching revenues to expenditures; to consider how much to borrow, for

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[19] Moral hazard refers to a phenomenon whereby a municipality or a lender, knowing that it will be bailed out by a higher authority in the event of a financial crisis makes the crisis more likely to occur. The existence of that higher authority weakens pressure on the municipality to pursue sound financial policies that prevent the crisis and reduces the incentives for lenders to exercise prudent risk assessment.

[20] True cost includes operating and maintenance costs, depreciation and return on all capital employed.

what purposes; and how quickly it can and should pay back loans. Technical assistance can focus on the preparation and application of standardized documentation and borrowing processes to support municipalities access capital markets and helps to resolve questions of security and keep costs down.

7.3 Financial Assistance

Financial assistance designed to help local authorities gain access to private capital can take several forms. Not all forms of financial assistance can respond positively to the three questions previously posed in Section 7.1. in particular, government programs that provide direct loans to local authorities on below market terms (lower interest) will discourage private investors from seeking to finance water and sanitation projects. Capital market investors will not attempt to compete with subsidized government loan programs, and their potential contribution to water and sanitation financing will be lost. If government subsidies for water and sanitation projects are desirable as a matter of public policy, then the subsidy should be provided as a carefully targeted grant, based on clear criteria and a transparent process of award.

7.3.1 Guarantees and Insurance

Guarantees of 100 percent to water and sanitation investors are a traditional form of financial assistance. Due to their contingent nature, their cost is not easy to measure at the time the guarantee is given. They can lead to lax lending practices and hinder the creation of effective private markets. However, partial guarantees for specific risks related to services for the poor or specific maturities may be worth consideration. For example, partial guarantees or short-term "missed payment" guarantees would also limit central governments risk and promote better project and service delivery management.

The ability of a financial assistance provider to reduce or eliminate specific risks in a transaction (e.g., specified environmental hazards or the repudiation of certain contractual obligations) or to back maturities that the private sector is reluctant to provide can leverage private capital investment. Properly designed and implemented, a "surgical" use of partial guarantees can reduce the risks of crowding out private participation. USAID's Development Credit Authority partial guarantee operations are demonstrating the utility of guaranteeing specific risks or maturities as a means of inducing private capital providers to participate in municipal water and sanitation financing.

7.3.2 Intergovernmental Payment Intercepts

Intercepts are a form of financial assistance, and one that need not have any significant cost to the national government. Intercepts can be a powerful credit enhancement. They are more effective, the more dependent the jurisdiction is on transfer payments from other spheres of government. A stream of stable, predictable intergovernmental transfers can be made pledgeable and interceptable, which would enhance creditworthiness. Significant penalties or administrative fees when the intercept is exercised could discourage jurisdictions and creditors from relying on the intercept mechanism, and encourage them to manage the debt payments in a businesslike fashion. Such a mechanism can leverage private sector funding, rather than crowd it out. In the Philippines, the intercept mechanism is being combined with a guarantee scheme to enhance loans provided by private banks to local governments.

7.3.3 Facilitating Financing for Small Borrowers

With regard to small borrowers, at issue is whether a special intermediary should be created for municipalities that cannot access credit markets through existing market mechanisms. Special intermediaries should not replace existing market lending and underwriting institutions, but should complement them. In some countries, the private sector may be able to provide such intermediation, without the need to create a new agency or function for government, and, in principle, this is desirable. However, a small issue may not attract the market's attention and even if it does, it may not be economical to finance them in the formal securities markets.

Many kinds of intermediary models are possible, including bond banks, bond pools, revolving loan funds, and municipal lending institutions. Such an institution might borrow in its own name and use the proceeds to purchase debt instruments of municipal borrowers (banking), or it might assemble and repackage municipal debt instruments and make them available to the market (pooling). A major attraction of such banking and pooling structures is that they can provide economies of scale in issuance and because of their larger size of issuance have a better chance of attracting a secondary market interest.

Intermediary models also have costs. These costs may include administrative costs, subsidies, credit enhancement costs, or a combination of all three. However, with a properly designed and efficiently run intermediary, the costs will likely be less than those involved in outright capital grants, and will have the virtue of helping local officials understand and practice the trade-offs involved in debt finance. Special intermediaries can be designed to provide several services to local governments. These include access to capital markets for local entities that otherwise would not have access; savings on the various fixed costs of debt issuance; streamlined and standardizing borrowing procedures and documentation; assistance with capital planning and cash-flow projections; and pre-structuring loan packages.

8. Conclusions

Providing water and sanitation infrastructure to sustain growth into the 21st century and improve the quality of life in cities through out the developing world will pose enormous challenges for the nations of the developing world. Water and sanitation requirements are the greatest in the poorer and less developed urban areas. Financing such projects from central government budgets is not possible at the scale required, and most cities lack resources to fund municipal water and sanitation projects directly from their own annual revenues. Nor can Multilateral institutions and donor agencies will never have the resources to fill the formidable financing gap. Furthermore, public-private partnerships for municipal infrastructure development, such as concession contracts, are no panacea due to their complexity and time-consuming nature. Financing the water and sanitation through bank loans is a marginal option. Government banks have limited resources and private commercial banks will not provide long-terms loans even for the most creditworthy projects. Their deposits are not of sufficiently long maturities and the risks involved render them unwilling to lend without public guarantees.

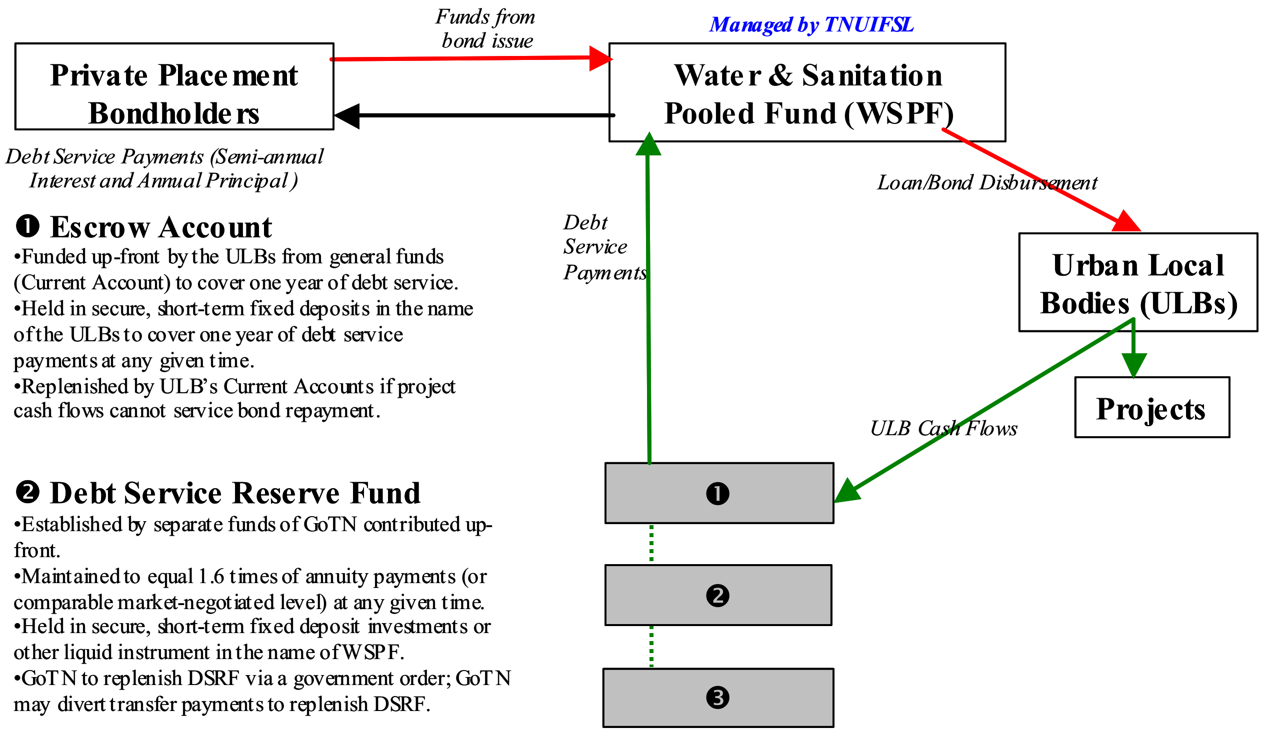
Long term debt from capital markets represent the most promising source of financing for municipal water and sanitation. Many emerging economies are beginning to make use of capital markets for the financing of their infrastructure requirements. Some countries of the developing world have turned to international capital markets for raising infrastructure investment funds. However, reliance on foreign funding Creates high levels of foreign exchange risk that can not be eliminated. The challenge lies in tapping domestic capital markets. A increasing number of developing countries have developed their securities markets and long-term savings institutions, enabling municipalities to tap domestic markets for water and sanitation finance. There are lessons to be learned from both industrialized and developing countries that have been successful in this approach.

Local government capacity to generate a commercially viable project stream is essential to access domestic capital markets for water and sanitation finance. There are countless opportunities for public-private cooperation to facilitate access to domestic capital markets for the financing of water supply and sanitation infrastructure. The need for technical assistance and the commitment of the donor community to stay the course over the mid- to long-term to support technical assistance is critical.

It must be remembered that "good projects", commercially viable projects attract investors.

Annex A

Schematic of the Tamil Nadu Water and Sanitation Pooled Fund



❶ Escrow Account

- Funded up-front by the ULBs from general funds (Current Account) to cover one year of debt service.
- Held in secure, short-term fixed deposits in the name of the ULBs to cover one year of debt service payments at any given time.
- Replenished by ULB's Current Accounts if project cash flows cannot service bond repayment.

❷ Debt Service Reserve Fund

- Established by separate funds of GoTN contributed up-front.
- Maintained to equal 1.6 times of annuity payments (or comparable market-negotiated level) at any given time.
- Held in secure, short-term fixed deposit investments or other liquid instrument in the name of WSPF.
- GoTN to replenish DSRF via a government order; GoTN may divert transfer payments to replenish DSRF.

❸ Third-Party Guarantee

- USAID guarantees 50% of DSRF payments (will be triggered when DSRF is exhausted and not replenished by the GOTN within 90 days).

Annex B

Glossary of Municipal Securities Terms

In order to participate effectively in capital markets, local governments need to be familiar with the technical terms used throughout the bonding process. The following glossary is intended to serve as a general reference tool. The definitions (which have been edited for this paper) were compiled from a variety of sources.

ACCRUED INTEREST-On a transaction in a security, the amount of interest, based upon the stated rate or rates of interest, which has accumulated on a security from (and including) the most recent interest payment date (or, in certain circumstances, the dated date or other stated date), up to but not including the date of settlement of the transaction. Accrued interest is paid to the seller by the purchaser. Accrued interest is usually calculated on the basis of a 360-day year (assuming that each month has 30 days), but alternative day counting methods are used for certain types of securities (e.g., some municipal notes and some bonds that bear interest at a variable rate).

AMORTIZATION OF DEBT-The process of paying the principal amount of an issue of securities by periodic payments either directly to securityholders or to a sinking fund for the benefit of securityholders. See: DEBT SERVICE; DEBT SERVICE SCHEDULE.

AMORTIZATION SCHEDULE-A table showing the gradual repayment of an amount of indebtedness, such as a bond, over a period of time. This table is often set up to show interest payments in addition to principal repayments. See: DEBT SERVICE SCHEDULE.

AUCTION MARKET-A market for securities, typically found on a national securities exchange, in which trading in a particular security is conducted at a specific location with all qualified persons at that post able to bid or offer securities against orders via outcry. Very few municipal securities are traded in an auction market system. Compare: OVER-THE-COUNTER MARKET.

AUDITED STATEMENT-A financial statement which has been examined by an auditor and upon which the auditor has expressed or disclaimed an opinion.

AUDITOR'S REPORT-The written report of an independent auditor upon completion of the audit. The auditor's report describes the scope of the auditor's examination and gives or disclaims an opinion as to the fairness of the financial statements. It accompanies the financial statements as a part of the audit report.

AUDIT REPORT-The report prepared by an auditor following his audit or investigation of an entity's financial position and results of operations for a given period of time. As a general rule, the report should include: (a) a statement of the scope of the audit; (b) explanatory comments concerning exceptions from generally accepted accounting principles and auditing standards; (c) expression or disclaimer of opinions; (d) explanatory comments concerning verification procedures; (e) financial statements and schedules; and (f) statistical tables, supplementary comments and recommendations. The auditor's signature follows item (c) or (d).

AUTHORITY-A unit or agency of government established to perform specialized functions, usually financed by service charges, fees or tolls, although it may also have taxing powers. In many cases authorities have the power to issue debt which is secured by the lease rental payments made by a governmental unit using the facilities constructed with bond proceeds. An authority may function independently of other governmental units, or it may depend upon other units for its creation, funding or administrative oversight. Examples of authorities include health facilities authorities, industrial development authorities and housing authorities.

BID-A proposal to purchase securities at a specified price. With respect to a new issue of municipal securities, the bid specifies the interest rate(s) for each maturity and the purchase price. The purchase price is usually stated in terms of par, par plus a premium or par minus a discount. Compare: OFFER.

BOND-Evidence of the issuer's obligation to repay a specified principal amount on a date certain (maturity date), together with interest at a stated rate, or according to a formula for determining that rate. Bonds are distinguishable from notes, which usually mature in a much shorter period of time. Bonds may be classified according to maturity structure (serial vs. term), source of payment (general obligation vs. revenue), method of transfer (bearer vs. registered), issuer (state vs. municipality vs. special district) or price (discount vs. premium).

BOND COUNSEL- An attorney (or firm of attorneys) retained by the issuer to give a legal opinion that the issuer is authorized to issue proposed securities, the issuer has met all legal requirements necessary for issuance, and interest on the proposed securities will be exempt from federal income taxation and, where applicable, from state and local taxation. Typically, bond counsel may prepare, or review and advise the issuer regarding authorizing resolutions or ordinances, trust indentures, official statements, validation proceedings and litigation. The bond counsel may also be referred to as the "bond attorney," the "bond approving attorney" or the "bond approving counsel." Compare: UNDERWRITER'S COUNSEL.

BONDHOLDER-The owner of a municipal bond. The owner of a bearer bond is the person having possession of it, while the owner of a registered bond is the person whose name is noted on the bond register.

BOND PROCEEDS-The money paid to the issuer by the purchaser or underwriter of a new issue of municipal securities. These moneys are used to finance the project or purpose for which the securities were issued and to pay certain costs of issuance as may be provided in the bond contract.

BOND PURCHASE AGREEMENT-The contract between the underwriter and the issuer setting forth the final terms, prices and conditions upon which the underwriter purchases a new issue of municipal securities.

BROKER or **MUNICIPAL SECURITIES BROKER**-A person or firm which acts as an intermediary by purchasing and selling securities (in the case of a "municipal securities broker," municipal securities) for others rather than for its own account. For purposes of the Securities Exchange Act of 1934 the term does not include a dealer bank. The term is also colloquially used to refer to a municipal securities broker's broker. Compare: BROKER'S BROKER; DEALER.

BROKER/DEALER-A general term for a securities firm which is engaged in both buying and selling securities on behalf of customers and also buying and selling on behalf of its own account. The term would not be used to refer to a dealer bank or a municipal securities broker's broker. See: BROKER; DEALER.

BROKER'S BROKER or **MUNICIPAL SECURITIES BROKER'S BROKER**-A broker that deals exclusively with other municipal securities brokers and dealers and not with public investors. The services of a broker's broker are available, generally at a standard fee established by each broker's broker, only to certain municipal securities professionals that are selected by the broker's broker. Broker's brokers do not take inventory positions in municipal issues.

COMPETITIVE BID or **COMPETITIVE BIDDING**-A method of submitting proposals for the purchase of a new issue of municipal securities by which the securities are awarded to the underwriting syndicate presenting the best bid according to stipulated criteria set forth in the notice of sale. The underwriting of securities in this manner is also referred to as a competitive or public sale. Compare: NEGOTIATED SALE. See: BID

DEALER or **MUNICIPAL SECURITIES DEALER**-A person or organization which engages in the business of underwriting, trading and selling securities (in the case of a "municipal securities dealer," municipal securities). For purposes of the Securities Exchange Act of 1934 the term "dealer does not include a bank; under the Act, however, the term "municipal securities dealer expressly does include a bank, or a separately identifiable department of a bank, which is engaged in underwriting, trading and selling municipal securities. In colloquial usage both terms are used to refer to both securities firms and dealer banks. Compare: BROKER.

DEBT LIMIT-The maximum amount of debt which an issuer of municipal securities is permitted to incur under constitutional, statutory or charter provisions. The debt limit is usually expressed as a percentage of assessed valuation.

DEBT SERVICE-The amount of money necessary to pay interest on an outstanding debt, the principal of maturing serial bonds and the required contributions to a sinking fund for term bonds. Debt service on bonds may be calculated on a calendar year, fiscal year, or bond fiscal year basis.

DEBT SERVICE SCHEDULE-A table listing the periodic payments necessary to meet debt service requirements over the period of time the securities are to be outstanding. See: AMORTIZATION SCHEDULE.

DEBT SERVICE RESERVE FUND-The fund in which moneys are placed which may be used to pay debt service if pledged revenues are insufficient to satisfy the debt service requirements. The debt service reserve fund may be entirely funded with bond proceeds, or it may only be partly funded at the time of issuance and allowed to reach its full funding requirement over time, due to the accumulation of pledged revenues. If the debt service reserve fund is used in whole or part to pay debt service, the issuer usually is required to replenish the funds from the first available funds or revenues. A typical reserve requirement might be the maximum aggregate annual debt service requirement for any year remaining until the bonds reach maturity. The size and investment of the reserve may be subject to arbitrage regulations. Under a typical revenue pledge this fund is the third to be funded out of the revenue fund. See: FLOW OF FUNDS.

DEBT SERVICE SCHEDULE-A table listing the periodic payments necessary to meet debt service requirements over the period of time the securities are to be outstanding. See: AMORTIZATION SCHEDULE.

DEFAULT-Breach of some covenant, promise or duty imposed by the bond contract. The most serious default occurs when the issuer fails to pay principal, interest, or both, when due. Other, "technical" defaults result when specifically defined events of default occur, such as failure to perform covenants. Technical defaults may include failing to charge rates sufficient to meet rate covenants or failing to maintain insurance on the project. If the issuer defaults in the payment of principal, interest or both, or if a technical default is not cured within a specified period of time, the bondholders or trustee may exercise legally available rights and remedies for enforcement of the bond contract.

DUE DILIGENCE-The process of thorough investigation of a bond issue, usually by underwriter's counsel. Such inquiry is made to assure that all material facts are fully disclosed to potential investors and that there have been no material omissions or misstatements of fact. The issuer, covenants of the bonds, and the true obligor in a conduit financing are investigated. Further inquiry may be required if the investigation reveals facts which are incomplete, suspect or inconsistent, either on their face or in light of other facts known to counsel.

EFFECTIVE INTEREST COST-The rate at which the total debt service payable on a new issue of bonds would be discounted to provide a present value equal to the amount bid on the new issue.

EFFECTIVE INTEREST RATE-The actual rate of interest earned by the investor on securities, which takes into account the amortization of any premium or the accretion of any discount over the period of the investment. See: YIELD TO MATURITY.

FEASIBILITY STUDY-A report detailing the economic practicality and the need for a proposed capital program. The feasibility study may include estimates of revenues that will be generated and details of the physical, operating, economic or engineering aspects of the proposed project.

FINANCIAL ADVISOR-With respect to a new issue of municipal securities, a consultant who advises the issuer on matters pertinent to the issue, such as structure, timing, marketing, fairness of pricing, terms and bond ratings. A financial advisor may also be employed to provide advice on subjects unrelated to a new issue of municipal securities, such as advising on cash flow and investment matters. The financial advisor is sometimes referred to as a "fiscal consultant" or "fiscal agent." MSRB Rule G-23 provides that a firm or bank which has acted in a financial advisory capacity with respect to a new issue of municipal securities (pursuant to a written contract) may underwrite the new issue (a) on a negotiated basis after making certain disclosures, obtaining the consent of the issuer and terminating the financial advisory relationship; or (b) on a competitive basis if the issuer gives written consent before the financial advisor's bid is submitted.

FLOW OF FUNDS-The order and priority of handling, depositing and disbursing pledged revenues, as set forth in the bond contract. Generally, the revenues are deposited, as received, into a general collection account or revenue fund for disbursement into the other accounts established by the bond contract. Such other accounts generally provide for payment of the costs of debt service, debt service reserve deposits, operation and maintenance costs, redemption, renewal and replacement and other requirements.

GENERAL OBLIGATION BOND or **G.O. BOND**-A bond which is secured by the full faith and credit of an issuer with taxing power. General obligation bonds issued by local units of government are typically secured by a pledge of the issuer's *ad valorem* taxing power; general obligation bonds issued by states are generally based upon appropriations made by the state legislature for the purposes specified. Such bonds constitute debts of the issuer and normally require approval by election prior to issuance. In the event of default, the holders of general obligation bonds have the right to compel a tax levy or legislative appropriation, by mandamus or injunction, in order to satisfy the issuer's obligation on the defaulted bonds.

INSTITUTIONAL SALES-Sales of securities to banks, financial institutions, bond funds, insurance companies or other business organizations (institutional investors) which possess or control considerable assets for large scale investing. Compare: RETAIL SALES.

INTEREST-The amount paid by a borrower as compensation for the use of borrowed money. This amount is generally an annual percentage of the principal amount. See: ACCRUED INTEREST; INTEREST RATE.

INTEREST RATE-The annual rate, expressed as a percentage of principal, payable for use of borrowed money.

INVESTMENT GRADE-The broad credit designation given bonds which have a high probability of being paid and minor, if any, speculative features.

ISSUER-A state, political subdivision, agency or authority that borrows money through the sale of bonds or notes.

LEGAL OPINION or **LEGAL** or **APPROVING OPINION**-The written conclusions of bond counsel that the issuance of municipal securities and the proceedings taken in connection therewith comply with applicable laws, and that interest on the securities will be exempt from federal income taxation and, where applicable, from state and local taxation. The legal opinion is generally printed on the securities. Compare: DUE DILIGENCE OPINION. See: BOND COUNSEL.

MANAGER-The member (or members) of an underwriting syndicate charged with primary responsibility for conducting the affairs of the syndicate. The manager generally takes the largest underwriting commitment.

MARKETABILITY-The ease or difficulty with which securities can be sold in the market. An issue's marketability depends upon many factors, including its interest rate, security provisions, maturity and credit quality, plus (in the case of the sale of a new issue) the size of the issue, the timing of its issuance, and the volume of comparable issues being sold.

MATURITY or **MATURITY DATE**-The date upon which the principal of a municipal security becomes due and payable to the securityholder.

MUNICIPAL SECURITIES-A general term referring to securities issued by local governmental subdivisions such as cities, towns' villages, counties, or special districts, as well as securities issued by states and political subdivisions or agencies of states. A prime feature of these securities is that interest on them is generally exempt from federal income taxation.

NEGOTIATED SALE-The sale of a new issue of municipal securities by an issuer through an exclusive agreement with an underwriter or underwriting syndicate selected by the issuer. A negotiated sale should be distinguished from a competitive sale, which requires public bidding by the underwriters. The primary points of negotiation for an issuer are the interest rate and purchase price on the issue. The sale of a new issue of securities in this manner is also known as a negotiated underwriting. Compare: COMPETITIVE BID.

OFFER-A proposal to sell securities at a stated price or yield. Compare: BID. See: OFFERING PRICE.

OFFERING PRICE-The price or yield at which dealers or members of an underwriting syndicate will offer securities to investors.

OVER-THE-COUNTER MARKET-A market for securities which are traded other than on a national securities exchange. The over-the-counter (or "OTC") market is characterized most particularly by a system of dealer market-making rather than the auction market system common on the securities exchanges. Almost all municipal securities are traded exclusively in the OTC market. Compare: AUCTION MARKET.

PAR-100% of face value of a security.

PAR BOND-A bond selling at its face value.

PAR VALUE-The amount of principal which must be paid at maturity. The par value is also referred to as the face amount of a security.

PLEDGED REVENUES-The moneys obligated for the payment of debt service and other deposits required by the bond contract.

PRIMARY MARKET-The market for new issues of municipal securities. Compare: SECONDARY MARKET.

PRINCIPAL-The face amount or par value of a security payable on the maturity date. Compare: INTEREST. See: PAR VALUE.

PRIVATE PLACEMENT-With respect to municipal securities. a negotiated sale in which the new issue securities are sold directly to institutional or private investors rather than through a public offering. Issuers often require investors purchasing privately placed securities to agree to restrictions as to resale; the investor may provide a signed agreement to abide by those restrictions.

PRICE-Price of the bond, generally quoted in terms of percentage of par value (e.g. premium price = 103 % and discount price = 97 % of par value) or in terms of yield to maturity (e.g. yielding 10 ¾ %).

RATING AGENCIES-The organizations which provide publicly available ratings of the credit quality of securities issuers.

RATINGS-Evaluations of the credit quality of notes and bonds usually made by independent rating services. Ratings are intended to measure the probability of the timely repayment of principal of and interest on municipal securities. Ratings are initially made before issuance and are periodically reviewed and may be amended to reflect changes in the issuer's credit position. The information required by the rating agencies varies with each issue, but generally includes information regarding the issuer's demographics, debt burden, economic base, finances and management structure. Many financial institutions also assign their own individual ratings to securities.

RECORD DATE-A fixed date prior to the interest payment date on an issue of registered securities which is used to determine to whom the next interest payment should be made. Persons who are listed as the registered owners of the security on the record date will be sent the interest payment. The registrar for the issue prepares a list of all persons who are registered as the owners of the security on the record date. The registrar provides this list to the paying agent on the issue, who disburses the interest payment checks to the registered owners on the interest payment date. The record date on an issue paying interest on the first of a month is typically the 15th of the preceding month (or the last business day before it); the record date on an issue paying interest on the 15th of a month is typically the last business day of the preceding month.

REGISTRAR-The person or entity responsible for maintaining records on behalf of the issuer for the purpose of noting the owners of registered bonds. Compare: TRANSFER AGENT.

SECONDARY MARKET-The market for securities previously offered and sold. Compare: PRIMARY MARKET.

SECURITY FOR THE BONDS or **SECURITY**-The specific revenue sources or assets of an issuer which are pledged for payment of debt service on a series of bonds, as well as the covenants or other legal provisions protecting the bondholders.

SYNDICATE-A group of underwriters formed to purchase (underwrite) a new issue of municipal securities from the issuer and offer it for resale to the general public. The syndicate is organized for the purposes of sharing the risks of underwriting the issue, obtaining sufficient capital to purchase an issue and for broader distribution of the issue to the investing public. One of the underwriting firms will be designated as the syndicate manager or lead manager to administer the operations of the syndicate.

TRANSFER AGENT-The person or entity who performs the transfer function for an issue of registered municipal securities. This person or entity may be the issuer or an official of the issuer, or an outside organization employed by the issuer to act as its agent. In certain cases the transfer agent performs only that part of the transfer function involving the issuance or reissuance of securities certificates in the name of the new registered owner, with the function of maintaining the list of registered owners performed by a separate entity (known as the "registrar"). The entity performing the transfer function may also act in other capacities (e.g., as paying agent) on the issue. See: REGISTRAR.

UNDERWRITE or **UNDERWRITING**-The process of purchasing all or any part of a new issue of municipal securities from the issuer, and offering such securities for sale to investors. See: SYNDICATE; UNDERWRITER.

UNDERWRITER-A dealer which purchases a new issue of municipal securities for resale. The underwriter may acquire the securities either by negotiation with the issuer or by award on the basis of competitive bidding. See: COMPETITIVE BID; NEGOTIATED SALE; SYNDICATE.

UNDERWRITER'S COUNSEL-An attorney or law firm retained to represent the interests of the underwriters in connection with the purchase of a new issue of municipal securities. The duties of underwriter's counsel may include review of the issuer's bond resolution or ordinance and documentation on behalf of the underwriter; review of the official statement to determine the adequacy of disclosure; negotiation of the agreement among underwriters; and preparation of the due diligence opinion. Compare: BOND COUNSEL. See: DUE DILIGENCE.

YIELD TO MATURITY-The rate of return to the investor earns from payments of principal and interest, with interest compounded semiannually at the stated yield, presuming that the security remains outstanding until the maturity date. Yield to maturity takes into account the amount of the premium or discount, if any, and the time value of the investment, as well as the frequency at which interest is paid.

Annex C

Organizations, Networks and Resources

Organizations

The following organizations are valuable sources of information and advice on the planning and implementation of water supply and sanitation programs. The list is by no means exhaustive. Many of these organizations maintain web sites that in turn contain lists of links to other water supply and sanitation organizations.

American Water Works Association
1401 New York Ave, NW
Suite 640
Washington, DC 20005 USA

Tel: (202) 628-8303
Internet address: <http://www.awwa.org/>

CINARA - Instituto de Investigación y Desarrollo en Agua Potable, Saneamiento Básico y Conservación del Recurso Hídrico
Universidad del Valle
sede Melendez, Edificio 344
Cali, Colombia
Contact: Gerardo Galvis Castaño, Ingeniero

Tel: (92) 3392345 - (92) 3308961
Fax: (92)3393285
E-mail: gegalvis@cinara.univalle.edu.co
Internet address: <http://cinara.univalle.edu.co/> or
<http://info.lut.ac.uk/departments/cv/wedc/garnet/lncla.html>

CREPA- Centre Regional pour l'Eau Potable et l'Assainissement a Faible Cout
Mr. O. Guene
CREPA, 03 BP 7112, Ouagadougou 03,
Burkina Faso

Tel: +226 31 03 59
Fax: +226 31 03 61
Internet address: <http://info.lut.ac.uk/departments/cv/wedc/garnet/lncwa.html>

Environmental Health Project
1611 North Kent St., #300
Arlington, VA 22209 USA

Tel: 1-703-247-8730
Fax: 1-703-243-9004
E-mail: info@ehproject.org
Internet address: <http://www.ehproject.org/live/thisisE.html>

International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)
Environmental Health Programme, ICDDR, B,
GPO Box 128, Dhaka 1000, Bangladesh

Tel: +880 2 600171
Fax: +880 2 883116
Internet address: <http://www.icddrb.org.sg> or
<http://info.lut.ac.uk/departments/cv/wedc/garnet/lncsa.html>

International Council for Local Environmental Initiatives
World Secretariat
City Hall, West Tower 16th Floor
100 Queen Street, West
Toronto, Ontario
M5H2N2, Canada

Tel: 1-416-392-1462
Fax: 1-416-392-1478
E-mail: iclei@iclei.org
Internet address: <http://www.iclei.org>

International Private Water Association (IPWA)
205 West End Avenue
8th Floor
New York, NY 10023, USA

Tel: 212-873-0902
Fax: 212-873-5531
E-mail: kshandling@nyc.rr.com

International Water and Sanitation Center (IRC)
P.O. Box 2869
2601 CW Delft
The Netherlands

Tel: +31-15-219 29 39
Fax: +31-15-219 09 55
E-mail: general@irc.nl
Internet address: <http://www.irc.nl/aboutirc/index.html>

International Water Association (IWA)*
Alliance House, 12 Caxton Street
London SW1H 0QS
United Kingdom

Tel: +44 (0)20 7654 5500
Fax: +44 (0)20 7654 5555
E-mail: info1@iawq.org.uk

*IAWQ and IWSA (International Water Services Association) were merged in 1999 to form IWA, the International Water Association.

Organization for Economic Co-operation and Development
Protection of the Human Environment
World Health Organization
1211 Geneva 27
Switzerland

Fax: +41 22 791 43 21
E-mail: pfistera@who.ch
Internet address: <http://www.who.int/water_sanitation_health/index.html>

STREAM – A coalition of water supply and sanitation resources centers from around the world.
Internet address: <http://www.irc.nl/stream/index.html>

The Water Page
The African Water Page
Water Web Management Ltd.
1 Dome Hill, Caterham
Surrey CR3 6EE
United Kingdom

E-mail: info@thewaterpage.com
Internet address: <http://www.thewaterpage.com/>

U.S. Agency for International Development
Urban Programs / Making Cities Work
David Painter
Director
Office of Environment and Urban Programs
U.S. Agency for International Development
Washington, DC 20523 USA

Tel: 1-202-712-5113
Fax: 1-202-216-3714
E-mail: dpainter@usaid.gov
Internet Address: < www.makingcitieswork.org >

Development Credit Authority
John Wasielewski
Office Director
Office of Development Credit

Tel: 1-202-712-5058
Fax: 1-202-216-3593
E-mail: jwasielewski@usaid.gov
Website: < http://www.usaid.gov/economic_growth/egad/ci/dca2.htm >

Water Environment Federation
601 Wythe Street
Alexandria, VA 22314-1994 USA

Tel: 1-703-684-2400
Fax: 1-703-684-2492
Internet address: < http://www.wef.org >

Water Environmental & Sanitation (WES) Section
Programme Division, UNICEF
3 UN Plaza
New York, NY 10017 USA

Tel: 1- 212-824-6000
Fax: 1-212-824-6480
E-mail: wesinfo@unicef.org
Internet address: <http://www.unicef.org/programme/wes/weshm.htm>

Water Supply and Sanitation Collaborative Council
c/o WHO (CCW)
20 Avenue Appia
CH-1211 Geneva 27
Switzerland

Tel: +41 22 791 3685
Fax +41 22 791 4847
E-mail: wsscc@who.ch
Internet address: <http://www.wsscc.org/index.html>

Water Supply and Sanitation Division
The World Bank Group
1818 H Street, NW
Washington, DC 20433 USA

Tel: 1 (202) 473-9785
Fax: 1 (202) 522-3313 or (202) 522-3228
E-mail: info@wsp.org
Internet address: <http://www.wsp.org/english/index.html>

Water, Engineering and Development Centre (WEDC)
Loughborough University
Leicestershire LE11 3TU
United Kingdom

Tel: + 44 (0) 1509 222885
Fax: + 44 (0) 1509 211079
E-mail: WEDC@lboro.ac.uk

Internet address: <http://info.lboro.ac.uk/departments/cv/wedc/>

Websites and Discussion Groups

The following web sites are valuable sources of information and advice on the planning and implementation of water supply and sanitation programs. The list is by no means exhaustive. Many of these web sites in turn contain lists of links to other water supply and sanitation.

Afwater Electronic Discussion Group - Water in Southern Africa
Computing Centre for Water Research
c/o University of Natal
Private Bag X01
Scottsville 3209
Republic of South Africa

E-mail: afwater@aqua.ccwr.ac.za

Internet address: <http://www.ccwr.ac.za/hydro/elec.html>

DECNET – Water and Wastewater Decentralization Network and Discussion Group for Latin America and the Caribbean
Environmental Health Project
1611 N. Kent Street, Suite 300
Arlington, Virginia 22209, USA
Contact: Dan Campbell; campbelldb@ehproject.org

E-mail: campbelldb@ehproject.org

Internet address: <http://www.ehproject.com>

Environmental Health Webliography

<http://www.ehproject.org/Library/WebliographyEH.htm>

GENNET - The Gender Issues Network
International Water and Sanitation Centre
P.O. Box 2869
2601 CW Delft
The Netherlands
Contacts: Christine van Wijk and Jennifer Francis

E-mail: wijk@irc.nl or francis@irc.nl

Internet address: <http://info.lut.ac.uk/departments/cv/wedc/garnet/gennet.html>

Global Programme of Action (GPA) for the Protection of the Marine Environment from Land-based Activities
Contact: GPA Coordination Office

Fax: +31-70-3456648
E-mail: gpa@unep.nl

Internet address: http://gpanews.unep.org/ See also
<http://gpanews.unep.org/pdf/SewagePlan.PDF>

GreenCOM web site

Internet address: <http://www.usaid.gov/environment/greencom/index.html>

Hygiene Behaviour Network
Contact: Dr Eva Kaltenthaler
ScHAAR, University of Sheffield
Regent Court
30 Regent Street, Sheffield S1 4DA
United Kingdom

E-mail: e.kaltenthaler@sheffield.ac.uk

Internet: <http://info.lut.ac.uk/departments/cv/wedc/garnet/tnchygie.html>

Institutional Development Network
IHE Delft
Westvest 7
P.O. Box 3015, 2601 DA Delft
The Netherlands
Contact: Dr Richard Franceys

Fax: +31 015 122921
E-mail: rwf@ihe.nl

Internet address: <http://info.lut.ac.uk/departments/cv/wedc/garnet/tncinst.html>

IWA Specialist Group on Water and Waste Technologies and Management Strategies in Developing Countries
International Association on Water Quality
Alliance House, 12 Caxton Street
London SW1H 0QS
United Kingdom

Tel: +44 (0)20 7654 5500
Fax: +44 (0)20 7654 5555

E-mail: info1@iawq.org.uk
Internet address: <http://www.iawq.org.uk/grppage.htm>

Key International Organizations in Water and Sanitation

Internet address: <http://www.wsscc.org/interwater/keyorgs.html>

Low Cost Sewerage Discussion Group
Contacts: Mick China and Duncan Mara

E-mail: lcsewerage-request@mailbase.ac.uk

Internet address: <http://www.mailbase.ac.uk/lists/lcsewerage>

Annex D

Additional Sources

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