



U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

PRIVATE PROVISION OF PUBLIC SERVICES

OPPORTUNITIES AND ISSUES IN TELECOMMUNICATIONS,
ELECTRIC POWER, TRANSPORT,
WATER AND SANITATION, AND SOLID WASTE



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THIS VOLUME REVIEWS OPPORTUNITIES and issues related to the private provision of services in Africa's telecommunications, electric power, transport, water and sanitation, and solid waste sectors. Chapter 4 of the accompanying volume *Private Sector Initiative for Africa* reviews the experience of A.I.D. and other donors in sectors in which A.I.D. has concentrated attention and resources in recent years.

Promotion of private sector provision of services to the public requires the same basic elements of a supportive environment as any private sector development, namely, an appropriate, enabling policy environment in a stable macroeconomic setting—one with a legal and regulatory framework that ensures the validity of contracts and ownership and that does not stifle private initiatives but rather provides incentives to efficient resource allocation by private businesses.

Interest in privatization of infrastructural services is increasing as developing-country governments find that they cannot finance or

manage the services that they are committed to providing to their citizens. Initial government interest is usually stimulated by the possibility of reducing the government's financial burden by instituting user charges. A government considering such a possibility may then follow up on its initial interest in promoting private sharing in the financing of services with a broader investigation of the possibilities of private sector participation in the actual provision of services.

The urban areas of developing countries have particularly acute needs for privatization of services. By the end of the 1990s, some 2.1 billion people in these countries will be living in urban agglomerations. The capacities of national and municipal governments to provide even minimal levels of basic services to urban populations are being outpaced by the rate of urban population growth, which is two to three times the rate of national population growth.

WHAT THE U.S. PRIVATE SECTOR CAN OFFER IN PROVISION OF PUBLIC SERVICES

- A problem-solving, problem-specific approach to technical, operational, and management aspects of service projects
- Sector-specific, technology-specific experience
- Dynamic response to market competition that leads to economic efficiency and productivity
- Experience in joint venture financing
- Access to private loan financing
- Access to guarantees against political and country risks through the Overseas Private Investment Corporation
- Investors eager to commit themselves to developing-country projects governed by policies that permit commercially viable operations and remittance of profits



Privatization through divestiture, or transfer of ownership, has received a good deal of attention in public policy, most particularly in developed countries and in the more advanced developing countries but also, to a lesser degree, in the poorer developing countries, such as those of Africa. In fact, references to privatization commonly equate the process with sale of assets. Yet the aspects of privatization that do not involve sale of state-owned assets may be more important for developing countries than changes in ownership.

Deregulation and other policy changes have a role in promoting the private provision of services to the public, by permitting expansion of competitive service enterprises or by acquiring in the service activities of previously extralegal operators. Moreover, the mere regulatory accommodation of private service operations in competition with public agencies can be expected to stimulate improvement in public services or to demonstrate that the public role is no longer essential.

A number of techniques of privatization of service delivery that fall short of actual divestiture have been tried successfully in both developing and developed countries (see "Definitions" and "Options," below). In the United States and Western Europe, municipal contracts for construction of facilities and provision of services are common. Municipalities in France and Spain present examples of well-established leases and concessions, especially in water and sanitation, models that French-speaking and Spanish-speaking countries in Africa and Latin America have tried with some success. Countries with relatively fast-moving economies have used concessions of the build-operate-transfer (BOT) variety to construct roads, bridges, and tunnels; Pakistan has launched one for oil-fired power. Santa Cruz, Bolivia, exemplifies the void-filling actions of

citizens organized in cooperatives to provide water and electricity to urban households. Appendix A presents the main characteristics of the various privatization options for private-public partnership in the financing and delivery of services.

Telecommunications and generation of electric power are fields offering great potential for private involvement, ones in which the recent experience of developed countries is informative. In most developing countries, the current levels of service are inadequate and demand is intense. Financing for private provision of these services is readily available (depending, of course, upon negotiation of profit and risk), and cost recovery by the providing firm is feasible.

The transport sector has attracted investment in tunnels, bridges, and highways through large BOT projects in Europe and Asia, but few such projects have been completed in developing countries. Elements of urban transport services can be privatized, formally or informally, with resultant improvements in services and efficiency.

U.S. economic assistance has long been involved in water and sanitation—in development of public systems, in promotion of the schemes of nongovernmental organizations and communities, and in privatization of various aspects of public water and sanitation services. The common view is that consumers will not pay the full cost of water services; analysis indicates the contrary. Even where government-supplied water is available, some consumers will pay higher prices for alternative sources of water, prices that cover costs and profits. Cost recovery for sanitation, which is often subsidized by rates for water, is also feasible, though more problematic.

Among urban services, solid waste management is a function in which the private sector



has been active in the United States and elsewhere—one in which the private sector could potentially be active in Africa.

DEFINITIONS

Privatization, broadly defined, comprises the transfer of public functions or assets to the private sector or measures to increase the role of the private sector in activities currently carried out by the public sector. The process of privatization encompasses acts of divestiture, but it reaches beyond the sale of government assets to include contracting for services, leases and concessions, franchises, and even the deregulation and licensing that will promote greater private sector activity.

Public services are services provided to the public, or citizens of a country, whether financed or provided by public or by private sources.

RATIONALE FOR PRIVATE PROVISION OF PUBLIC SERVICES

Governments planning to privatize services generally expect benefits in the following areas:

- Efficiency
- Cost savings to taxpayers and ratepayers
- Conservation of public managerial attention for matters that cannot be delegated
- Impetus to economic growth
- Gains in technology and human resource skills
- Additionality in financial resources

Privatization can also have corollary benefits. When a municipality, for example, privatizes a service in one or more parts of its jurisdiction, better performance of private service providers can impel the public providers in other subdivisions to improve their performance.

Deregulation alone may encourage competition and stimulate productive efficiency, as well as broaden total service coverage by both the public and the private sectors. If deregulation of a service sector does stimulate private production and services, the government will then be able to shift its resources to other functions of priority importance.

Spurs to economic growth and stimulation of entrepreneurial development can result from measures that permit the private sector to engage in activities from which it was previously excluded by public sector monopoly, by restraining regulation, or by lack of formal recognition. Freedom from restriction releases human energies and induces, in the first instance, provision of services (in trade or urban transport, for example) that require relatively low investment.

Disaggregation of service functions for purposes of privatization—for example, metering and billing, grounds and equipment maintenance, and computer services—will enable smaller enterprises to enter markets that may have been closed to them heretofore. Competition within the private sector and between the private and the public sectors encourages entrepreneurs to seek commercial success, and thus increases cost efficiency.

Privatization generally increases the possibilities that programs for which local expertise is lacking or in short supply will be carried out effectively and efficiently. Although there is some evidence to the contrary and some empirical reviews have been inconclusive, experience also generally demonstrates superior



performance and higher financial returns from private firms relative to public bodies operating in the same sectors.¹

Recognizing these effects, 80 percent of U.S. cities and counties use, or plan to use, private firms to provide such services as construction, vehicle maintenance, and street maintenance. Even though the U.S. experience is distant from and little known in developing countries, many of its elements can be adapted by a country interested in privatizing services. John Tepper Marlin's *Contracting Municipal Services: A Guide for Purchase from the Private Sector*, though written for U.S. local governments, would be a useful guide for any country.

Steps to privatize public services attract not only the new technologies (usually located in more developed countries) to which private sector contractors and investors have access but also the skilled personnel to help operate and manage the services and train country personnel to carry out the service provision function. The public authorities benefit from reduced overall personnel requirements and relief from the need to train and employ specialized personnel. The society gains new skills and an enhanced capacity for productive economic activity.

Governments are not always realistic in their expectations that private concessions will bring

additional financial resources to a service sector. When fiscal constraints prevent the public sector from borrowing to expand investment in sectoral infrastructure, it may be beneficial to invite the private sector to provide the necessary financing and manage the provision of services under concession. However, true additionality in financial resources accrues only when a private enterprise brings equity investment to the sector. Otherwise, the costs of the financing required by the private sector provider will have to be paid ultimately from public revenues.

OPTIONS

The various techniques of public-private partnership in the delivery of public services, though they all serve similar objectives (to relieve the burden on the public sector and improve the quality and coverage of services), differ in the degree of responsibility ceded to the private sector and in the financial relationships between the two sectors (Appendix A outlines the characteristics of common options for transfers of public service functions to the private sector that do not go as far as complete divestiture).²

¹ Elliot Berg Associates, "Private Provision of Public Services: A Literature Review" (report prepared for the Public Sector Management and Private Sector Development Division, Country Economics Department, World Bank, Washington, D.C., April 1989); John Tepper Marlin, ed., *Contracting Municipal Services: A Guide for Purchase from the Private Sector* (New York: Ronald Press Publication, John Wiley & Sons, 1984); Richard Scurfield, "The Private Provision of Transport Infrastructure," mimeo [Washington, D.C., 1990]; Thelma Triche, *Private Participation in Water Supply*, Infrastructure Notes, WS-1 (Washington, D.C.: Infrastructure and Urban Development Department, World Bank, December 1990).

² Useful discussions of privatization techniques are found in Elliot Berg and Ann K. McDermott, *Financing New Investment in Infrastructure in Developing Countries* (Washington, D.C.: Development Alternatives, Inc., for World Bank, October 1990); Elliot Berg Associates, "Private Provision of Public Services"; Daniel P. Coyaud, "Private and Public Alternatives for Providing Water Supply and Sewerage Services," Infrastructure and Urban Development Department Discussion Note, Report INU 31 (Washington, D.C.: World Bank, October 1988); Dennis J. Gayle and Jonathan N. Goodrich, *Privatization and Deregulation in Global Perspective* (New York: Quorum Books, 1990); Maureen A. Lewis and Ted Miller, "Public-Private Partnership in Water Supply and Sanitation in Sub-Saharan Africa," *Health Policy and Planning*, 2, no. 1 (1987): 70-79; Gabriel Roth, *The Private Provision of Public Services in Developing Countries*, EDI Series in Economic Development (New York:



Divestiture is, of course, the ultimate step in reduction of public responsibility for public services. Divestiture is the most complete mode of privatization if it involves sale of state-owned assets or state-run activities to private owners. In its other forms, divestiture can be accomplished by simple suspension of operations or by liquidation of both the operations and the corporate identity of a public body.

In joint public-private ventures, private firms (in Africa, usually foreign firms) participate with a government to expand public services. These firms bring new investment to the economy and often provide access to international products and technology, as well as management skills, that are not otherwise available in the country. Their motivation to ensure the viability and profitability of the venture is likely to lead to improved quality and coverage of services. From the government, the private investor will expect favorable regulation, and perhaps a government guarantee of its borrowing.

Under service contracts, the state, or the responsible public authority, contracts for service delivery functions to be carried out by private enterprise. The government retains maximum political and technical control and cedes minimal responsibility to the private operator. Under leases and concessions, the state has the opportunity to attract financing and technology from the private sector. The quality and coverage of service remain ultimately a public responsibility, but the government gives operational responsibility to, and expects greater financial commitment from, the private provider.

The various techniques of public-private cooperation in provision of services through

contracts, leases, and concessions have the following general characteristics:

- *Contracting* with private firms for service delivery, management, or construction can secure for a government technological and production skills and marketing and distribution capacity that it may lack. Contracts for billing and collection of fees offer an initial opportunity for both governments and enterprises to enter into partnership. Such operations are technologically simple and feasible for local firms with modest financial resources. In Canada, the United Kingdom, and the United States, as well as in developing countries, such private sector operations have proven to be considerably less costly than public efforts.³ Other disaggregated functions—especially those that are required on a periodic, rather than continuous, basis (for example, grounds maintenance, training, and troubleshooting)—are similarly amenable to management contracting to small firms. More established firms, with better financial recourse, are generally preferable for construction operations. Revenues from contracted services are paid into the government's general account or the account of the particular public authority. Payments to the contractor are made from the operating account of the public authority's budget (the relationship has been compared to that of client and consultant). If a private firm is required to provide equipment appropriate for its contractual function, the term of the contract must be long enough to allow for depreciation of capital expenditures, but is rarely for more than five years. The shorter the contract period, the more likely it is that

Oxford University Press, 1987); and World Bank, *Privatization: The Lessons of Experience* (Washington, D.C.: Country Economics Department, World Bank, April 1992).

³ Elliot Berg Associates, "Private Provision of Public Services"; Sandra Cointreau Levine, "Privatization of Municipal Solid Waste Services in Developing Countries" (paper presented at the A.I.D. Office of Housing and Urban Programs seminar "Privatizing Municipal Solid Waste Management Services," Washington, D.C., November 19, 1991); Marlin, ed., *Contracting Municipal Services*.



other firms will take the opportunity to offer competitive bids at the time of contract renewal.

- *Franchising* differs from contracting, under which a private firm is paid from government funds (general revenues or user charges), in that the firm holding the franchise collects the charges on its own account. The firm typically pays the government a competitively negotiated license fee—which may include an amount designated to cover government's costs of managing the franchise and monitoring the private firm's operations—for the right to the franchise. The use of franchise is common in the United States for collection of solid waste. In Indonesia, as in Cairo, municipal governments have established effective franchises by organizing informal trash collectors in low-income neighborhoods to collect fees and bring the trash to designated points for municipal collection. Under a franchise, a private firm must cover all its costs plus its license fee. User charges, which are paid to the firm, may exceed those that would be in effect under a management contract. Nevertheless, the mechanism is more effective in relieving the public purse, and usually in eliminating subsidies to consumers. Regulation is necessary to prevent price gouging by the franchise holder.
- *Leasing*, frequently referred to in francophone countries as *affermage* (farming out), involves the renting of facilities by public authorities to private firms. The firms assume full commercial risk (responsibility for operation and maintenance, working capital, and replacement of components with a short economic life); extensions of the physical plant and debt service remain government responsibilities. The contractors usually collect authorized charges, retain an

agreed amount or percentage of revenues as compensation, and pay the remainder to the government authorities as rental fees. The amount of compensation may be linked to performance. Leases have been used in Africa in water supply (Côte d'Ivoire and Guinea), electric power (Côte d'Ivoire), road transport (Niger), port management (Nigeria), and mining (Guinea).

- *Concessions* bring equity investment and loan finance to construction projects by granting to private firms or consortia the right to finance and build facilities and to operate them for sufficient time to depreciate investments and provide a reasonable return to equity investors. The concession holder must finance all investment costs and working capital. The most successful concessions have served as mechanisms not only to attract investment capital but also to induce private operators to improve their performance in response to the competitive pressures brought to bear in the award of a concession. Where government is the only purchaser of a product or the services of the concession, the agreement normally requires such purchase on a product-needed or product-produced basis. In other instances, the agreement may or may not specify an acceptable range of public fees (as for a toll road or tunnel). A concession agreement is inevitably complex, covering such matters as performance standards and methods of judging performance, penalties for delay or nonperformance, assignment of risk (project risk, foreign exchange risk, commercial risk, or country or political risk), resolution of disputes, safety and health standards, and environmental protection. The various forms of concession include a series of hybrid financial arrangements for construction, all of which serve to shift financial burdens otherwise carried by the



A BOT SCHEME FOR POWER: SHAJIAO B PLANT—CHINA

The Shajiao B coal-fired power station, a successful BOT project, was built as an extension to the A power station in China's Guangdong province, to provide power to the Shenzhen Special Economic Zone. The developer, Hopewell Holdings Ltd. of Hong Kong, proposed the project under a BOT scheme, having recognized the inadequate generating capacity of the area. The most important factor in the success of the Shajiao B plant was identification of a critical need in a specific region. The government of China had already slated the region for power

development but lacked the capital to build its own plant. The government presented no major legal or regulatory obstacles.

The BOT arrangement provided that

- Completion risks were taken by the developer, not the government; the host public utility was not responsible for cost overruns, delays, or noncompletion
- The developer assumed all financial responsibilities associated with construction, freeing the local utility from debt burdens associated with the plant

public sector to the private sector. In accordance with their provisions, these concessions can also relieve government of project and commercial risks associated with the functions to be served. Concessions can attract international capital that probably would not otherwise be available to the sponsoring public body. To the extent that privately subscribed equity is substantial (it typically covers 10 to 30 percent of project costs, and commercial lenders and donors provide the remainder), a concession brings net flows of foreign investment funds. Concessions also facilitate access to technology, technical expertise, and training. The arrangements in concessions vary in their specific provisions.

- A *build-operate-transfer (BOT)* or *build-own-operate-transfer (BOOT)* concession retains a firm or consortium to build a project, to operate it for a period sufficient to cover project debt and investment and an agreed profit, and then to transfer ownership back to government on an agreed date for an agreed compensation.

- A *build-own-operate (BOO)* concession is essentially a turnkey operation sponsored by a government desiring to stimulate creation of infrastructure or development of a resource. Typically, the government provides financial incentives, including tax benefits and opportunities for accelerated depreciation, to a private firm on a competitive basis.

In BOT or BOOT concessions, the private operator frequently brings additionality in human resource development as well as in finance, by training facility staff and by involving public officials in planning and implementing the project to help prepare them for its eventual return to government (hence, the term BOOTT).

The varied but similar construction financing arrangements of BOT and BOO concessions involve complex negotiations and expenditures of time and resources by both parties to these agreements. Projects have withered after prolonged negotiations, primarily due to lack of mutual understanding concerning the types and magnitudes of risks involved. The BOO approach is hardly known



in developing countries, and few BOT projects have actually begun implementation. Strong interest and some progress have been shown in Indonesia, Malaysia, Pakistan, the Philippines, Thailand, and Turkey. Projects proposed and under negotiation include power plants, port facilities, free trade zones, toll roads, bridges and tunnels, subway systems, and water treatment plants.

- *Guaranteed purchase of product* by a public utility promotes single-purpose enterprises (for example, mini-hydropower production), innovative dual-purpose processing (for example, recycling of liquid waste for

sale to industry), or coproduction (for example, generation of electric power from excess production of steam for manufacturing or heating). The premier example of the guaranteed-purchase mechanism is the United States' Public Utility Regulatory Policies Act of 1978 (PURPA). This act has made it possible for a wide range of newcomers, mostly small-scale independent producers, to compete in the power industry. It requires utilities to purchase power produced by independent businesses at a price equivalent to the "avoided cost" of generation of power by the utility itself.

ROLE FOR DONOR AGENCIES IN PROMOTING PRIVATE PROVISION OF PUBLIC SERVICES

For either contract or investment arrangements:

- Analysis of legal, procurement, economic, and financial issues
- Analysis of environmental impact factors
- Help in preparation of policies to attract private sector provision of services
- Organization and training of institutions charged with sectoral policy, regulation, and monitoring
- Help in drafting quality and safety standards
- Training in contract drafting and negotiation; technical assistance in review of bids and selection of contractor(s)

For investment schemes:

- The design and drafting, for each sector, of a framework for negotiation of a project to ensure that the interests of both government and private investors are accommodated
- The establishment of regulations, and re-design of the relevant regulatory agency,

to ensure a predictable operating environment for investors

- The financing of a government's equity contribution to a project (as in the Hab River Power Project in Pakistan, where the World Bank's Private Sector Energy Development Fund will finance 35 percent)
- Export credit agency guarantees for project borrowing
- Country and political risk guarantees (through the Overseas Private Investment Corporation or the Multilateral Investment Guarantee Agency)

For promotion of spontaneous enterprise:

Regulatory change to permit

- Production for consumption in a specified geographic area or by a specified membership group
- Purchase of excess private production by the public utility, on a guaranteed or as-needed basis



Under the act, several hundred U.S. companies have entered the power generation business since 1980. Under A.I.D.-sponsored expert guidance, fifteen developing countries (for example, the Dominican Republic, India, the Philippines, and Thailand) have established similar regulations to stimulate producers by guaranteeing purchase of their products by public utilities.

- *Deregulation and licensing* can make possible the recognition of hitherto “informal” private sector activity. Even the simple cessation of harassment of an organization can promote private activity. Such promotion of private sector activities can relieve the public sector from the need to establish complete coverage in certain services.
- *Territorial concessions* most often come about when a government formally grants permission to a spontaneously developed service enterprise, such as water vending or trash collection. On a relatively small scale, in Santa Cruz, Bolivia, cooperatives have established community networks for distribution and sale of water and of electricity. In the coastal region of Kenya, where people were not subscribing to the established system of standpipes to supply water, the government has recognized the spontaneous enterprise of kiosks that purvey water from the public supply and successfully collect fees from users, with the result that a greater proportion of the population is now using safe water. On a larger scale, a government can take steps to license and regulate competitive private transport in areas where the public transport system had previously excluded private operators.
- *Enclave developments*—for example, tourist complexes, industrial sites, and residential developments—typically produce or purchase privately their own services, such as

power, water, and sanitation. The role of the state in promoting such developments is relatively passive. It may involve little more than tolerance of the existence of services generated on behalf of an exclusive group of consumers, even if those services bypass state monopoly rights or otherwise violate some municipal or state regulation.

CHALLENGES AND CONSIDERATIONS

Following privatization of an element of public service, the government of any country is likely to continue to consider itself responsible for ensuring that the services provided by the private sector will meet quality standards (such as potability in water supply) and will be available on an equitable and affordable basis to all potential customers. Thus, as it privatizes the provision and financing of services, the public sector may relieve itself of certain demands on personnel and financial resources but may at the same time require new skills in policy formulation, regulation, and oversight of private sector functions. Acquisition of such skills may require external assistance and training.

In the absence of effective competition in the provision of services, privatization brings risks—of predatory prices for the consumer and excessive profits for the provider. To ensure adequate delivery and quality of services, the government must therefore establish specific performance criteria to enforce the private provider’s commitment to effective performance. Management contracts can be of relatively short duration in order to ensure competitive bidding for future years’ services. If competing firms do not exist, however, the



government is particularly challenged to regulate and oversee pricing and other factors and to hold the private enterprise to its contractual commitments. Under lease arrangements, where the initial contract of six to ten years is often renewable for up to twenty years, it is possible (but not easy) for a competing firm to bid successfully for the next contract. It is therefore especially incumbent on the government to introduce adequate performance incentives into the contract and to establish effective consumer complaint mechanisms.

Because different kinds of public service call for different kinds of regulations and relationships and because the interests of the public and private parties to a partnership do not entirely coincide, each negotiation tends to be transaction specific. This is particularly so for BOT transactions, which are complex in terms of private sector participation (usually involving a consortium of participants), financing, and the sharing of risk. In Turkey, where two power plant projects are under way, negotiations for a third, which have already consumed several years, may never be concluded. The Hong Kong East Harbor Crossing required two years from bid tender to contract. In Pakistan, the Hab River Power Plant (which is to be 30 percent financed by the World Bank-sponsored, multidonor-financed Private Sector Energy Development Fund) has been through several stages, including A.I.D.- and World Bank-assisted creation of enabling regulations and negotiation of financial and other responsibilities, since an unsolicited bid was submitted in 1987.⁴

Governments may be reluctant to privatize because they anticipate higher costs to the consumer when user fees have to cover not only

the profit margin but also the higher costs of borrowing by the private sector. However, in the absence of cheaper and less risky public finance, a service facility or function would not be possible without private involvement. Governments can be helped to consider the possibility that the private sector will bring significant gains in operating efficiencies and added coverage as well as a continuous transfer of new technology.

Without substantial deregulation of markets and simplification of procedural relationships with government, private firms cannot produce goods and services efficiently. A study of three construction activities in Honduras (housing, rural primary schools, and rural roads) found that the private contractors faced institutional and procedural barriers that prevented them from reducing the cost and time of construction and improving its quality.⁵

In developing countries, the management of public services by a private enterprise, even under a negotiated performance agreement, does not necessarily lead to dramatically improved financial performance in service delivery. Performance must be monitored and analyzed regularly, and disincentives must be identified and removed. Performance is most effective when the firm used is already commercially established, with good management and sound financial and reporting procedures, and when there is active and informed public management. In many countries, however, according to a World Bank analysis, the very process of clarifying objectives and of open negotiation of physical and financial performance indicators is almost always salutary for the public enterprise, even when it does not achieve immediate cost savings.⁶

⁴ Mark Augenblick and B. Scott Custer, Jr., *The Build, Operate and Transfer ("BOT") Approach to Infrastructure Projects in Developing Countries*, Policy, Research and External Affairs Working Paper WPS 498 (Washington, D.C.: World Bank, August 1990).

⁵ Gill Chin Lim and Richard J. Moore, "Privatization in Developing Countries: Ideal and Reality" (paper prepared for USAID/Honduras by the National Association of Schools of Public Affairs and Administration).

⁶ World Bank, *Privatization*.



PROBLEMS IN PUBLIC SERVICE DELIVERY SYSTEMS

Staff rigidities:

- Difficulties in attracting and keeping well-qualified staff
- Fixed levels of staff salaries
- Impossibility of firing incompetent staff

Inadequate finances:

- User charges, usually established at socially or politically acceptable levels, inadequate to cover recurrent costs
- Revenues perhaps sufficient for standard maintenance but not for large repairs, replacement, or expansion of the system
- Lack of power to carry over unused funds to the following financial year or to hold them in financial markets

Excessive political interference in the following:

- Staff recruitment and management
- User charges
- Treatment of delinquent customers
- Expansion of system coverage

Weak institutional structures and poor management:

- Inability to analyze costs and alternative strategies
- Lack of standards and lack of control of quality and safety
- Rigid interpretation of policies and inadequate understanding of their effects on performance and standards of service

- Overlapping functions and jurisdictional disputes
- Inability to handle day-to-day operations efficiently in order to concentrate on sector policy-making, planning, and regulation

Local authorities' lack of taxing and decision making powers:

- Inability to organize and finance local services
- Dependence upon central authority for budgets and allocations within budgets

Lack of distinction between commercial and other, political and social objectives, and appropriate sources of revenue for each:

- Tendency, if the private sector is brought in, to
 - Fail to incorporate incentives for efficiency into contracts
 - Ignore the crucial role of oversight, especially in a monopoly situation
 - Impose unacceptable burdens of subsidy on certain subscribers, who will then look to the market for other alternatives
- Inadequate communication among various departments, leading to overall lack of accountability and control

Excessive controls on contracted private service functions:

- Profits and remittances to investors
- Hiring and firing practices
- User charges



Realistically, government cannot expect investors to be attracted to public service projects in the absence of a favorable legal environment and regulatory support. In addition, investors will seek the following:

- Guarantees of the right to remittance of foreign exchange
- The freedom to import materials and capital goods
- The ability to hire and fire local labor and contractors
- A favorable tax regime

Opposition to divestiture, contracting, and concessions arises among public employees, who foresee the loss of their jobs, and government managers, who are threatened by a loss of jurisdiction and power. Experience has shown, however, that the fears of these personnel can be allayed. Indeed, although there is some redundancy in staff requirements, as the public body turns its attention to other important functions, including that of reviewing policy and overseeing the private sector operations, the need for well-qualified officials continues. These officials may need training, however, especially in analysis and policy formulation.

TELECOMMUNICATIONS

Telecommunications is a technologically dynamic sector that until recently had not been of great interest to private enterprise except for the opportunities that it offered to equip and manage public utility systems. The telecommunications sector traditionally has been treated as a natural monopoly appropriately

carried out by a public utility that would exploit economies of scale and maintain political and military sensitivities. In developing countries, the utilities and the technology used have most often originated in Japan or in the former colonies' metropolises.

Traditionally, public telecommunication systems have been characterized by underinvestment and lack of capital, poor service, inadequate maintenance, excessive prices, weak and unresponsive organization and management, limited coverage, and inability to meet expanding demand. Now, however, the sector is undergoing major structural changes and has attracted major business interest. The public utility tradition and the traditional sources of equipment (mainly in Europe and Japan) are under challenge by economic and marketing forces.

Opportunities for Private Action

Structural changes are sweeping the telecommunications sectors of developed nations and are beginning to appear in developing countries.⁷ To take advantage of these changes and restructure and reduce the role of the public utility, countries can take measures to

- Diversify the sources of transmission and subscriber equipment
- Invite private enterprise to establish separate business networks
- Allow dedicated networks to offer services to others
- Contract for maintenance and services

A corollary approach is to welcome and encourage private investment as a source of new capital, technology, and management skills, as

⁷ Thoughtful papers and reviews of current developments are offered in International Institute of Communications, *Developing World Communications* (London: Grosvenor Press International, 1987), and Bjorn Wellenius, Peter A. Stern, Timothy E. Nulty, and Richard D. Stern, eds., *Restructuring and Managing the Telecommunications Sector: A World Bank Symposium* (Washington, D.C.: World Bank, 1989).



a competitive stimulus to better performance by the public utility, and as purveyor of current technical innovations. Large and small investors are moving into all parts of the sector, in response to the following factors:

- Access to reliable telecommunications has become a necessity in all economic sectors as marketing and financial transactions have become globalized and the functions of information and telecommunications services have converged.
- Technological innovation has made communications services more readily accessible than traditional services, at lower cost and from a variety of suppliers.
- Strong business demand has emerged for more effective, less costly, and more varied communications services.
- Free trade zones require fast and dependable access to communications for businesses that depend on transfer of data rather than transfer of goods.
- Customers are seeking avenues other than the public system to satisfy their needs:
 - They wish to install systems (formal or informal) dedicated to their particular needs.
 - They are responsive to offers from suppliers of equipment and services.
 - They are prepared to sell (legally or extralegally) excess capacity to other users or to the public system.
- Developed countries have set the scene for revision of policies and regulations to increase the number of participants in the sector and promote competition in the provision of the overlapping varieties of services now available.

In Africa, the most underequipped region in terms of telecommunications, governments that are aware of the increasing economic importance of telecommunications development face opportunities to skip over the traditional development path, directly into the promotion of new technologies.

In Eastern Europe, A.I.D.'s Competition Policy project includes telecommunications policy in its mandate to help establish an environment that invites U.S. investment in infrastructure sectors.

The Center for Telecommunications Development and the Technical Cooperation Department of the International Telecommunication Union offer technical assistance to developing countries in the areas of regulation, coordination, standardization, and planning for international telecommunications. Such services can be useful to help review regulatory needs in a technologically new and more competitive service sector.

Experience

In Africa, U.S. firms providing services (such as feasibility studies, training, and procurement guidelines) for public telecommunications systems have reached the general conclusion that it is premature to recommend full divestiture of the public systems, considering the weak status of the systems, national economic and political conditions, and the heavy historic concentration of foreign technology and management. However, a study for A.I.D.'s Private Enterprise Bureau has identified Cameroon, Côte d'Ivoire, Kenya, and Senegal as countries in which a substantial degree of privatization would be feasible.⁸

Partial privatization, especially in the introduction of new services, is feasible in Africa as

⁸ Alfred Hotvedt, Peter A. Thomas, and Sinan A. Akisik, *The Potential for Privatizing Telecommunications Systems in Africa: The Cases of Cameroon, Côte d'Ivoire, Kenya and Senegal* (Washington, D.C.: Center for Privatization, for A.I.D. Bureau for Private Enterprise, September 1987).



well as other regions. Sri Lanka has launched a mixed-ownership commercial company that can operate, as well as raise domestic and foreign capital, with considerable autonomy. The 1987 transfer of telecommunication operating functions to a government-owned company in Malaysia offers the possibility of eventual sale of equity in that company. Jamaica has privatized its services.⁹

Further steps would incorporate services of private origin into the overall telecommunication system. In Nigeria the state-owned corporation established in 1985 is considering the use of the private telecommunications network of the Nigeria National Petroleum Company to serve major cities in the southeastern region. In India, telephone operations for Delhi and Bombay have been spun off to a publicly owned corporation that operates on a commercial basis with total financial autonomy, a commercial enterprise that has raised capital in local markets and improved the metropolitan services. Also, throughout India, large users have been authorized to install parallel high-capacity networks.

Countries that have not yet phased over from electromechanical to digital systems can skip directly to radio and satellite technologies and avoid the necessity for hard-wiring in remote areas not yet incorporated into the grid.

Operations by private enterprise that have been tried with success include the following:

- For new services:
 - Data and electronic mail networks
 - Local networks for businesses and utilities (railroads, pipelines, and power grids)
 - Mobile communication (cellular radio and paging)
 - Telex.
 - Spinoff of regional telephone service

- Access to international services
- Manufacture of components
- For existing services:
 - Changeover from analog to digital equipment
 - Installation and management of public telephones
 - Telephone agency operations
 - International service
 - Subcontracting of habitual tasks (cable laying, equipment installation and repair, directory publication, and subscriber wiring)

The teleport is the latest form of free trade enclave, one that exploits low-cost labor for functions that do not depend on geographic location because it accesses the international telecommunications network. Worldwide, more than two hundred teleports are operating or under development. In Africa, the laws in Togo and Cameroon permit the development of privately owned teleports for export processing zone industries. A teleport was established through a U.S.-Japanese joint venture in 1987 in the Montego Bay, Jamaica, Export Free Zone. Businesses established in a teleport, operating independently and entirely outside the public utility network, can deal in graphic arts, computer-aided design, mapping, and labor-intensive data entry services for hotel and airline reservations, banking services, billing, direct purchasing, and other functions that depend on transfer of digital data rather than transfer of goods.¹⁰

A teleport has the following components:

- A radio-frequency-interference-free antenna farm
- A fiber-optic and coaxial cable network
- A telecommunications control center

⁹ L. Gray Cowan, *Privatization in the Developing World* (New York: Praeger, 1990); Wellenius et al., eds., *Restructuring and Managing the Telecommunications Sector*.

¹⁰ International Institute of Communications, *Developing World Communications*.



- An integrated real estate development (though some participating businesses operate from outside the enclave)

Issues

USAID missions considering aid to privatization efforts in the telecommunications sector should take account of the following issues:

- If private companies are granted the monopoly privileges that public utilities have traditionally enjoyed, the limitations in service, high prices, and inefficiency of the predecessor public monopoly may be perpetuated.
- Because a public communications utility usually generates high economic return and is thus an important source of public revenue, a government may be reluctant to reduce its role.
- If privatization of a public telecommunications system affects only its most profitable elements (for example, its international service), the system could lose its ability to finance expansion of basic services and to subsidize certain poorer and more remote groups of users.
- In countries where the private sector is constrained by lack of capital and weak financial markets, absence of infrastructure, and management shortages, private enterprise cannot be expected to move initially beyond the aspects of the industry for which smaller investments are required, for example, mobile services and data networks.
- With more actors in the sector, the need for explicit policy formulation, independent of continuing or residual public operational responsibilities, will be more acute.
- National political and military interests will continue to require secure communications

and will have to be accommodated in restructured systems.

ELECTRIC POWER

The availability of reliable electric power is essential to the functioning of modern economies. Estimates indicate that the average annual growth in demand for electricity in developing countries will be more than 6 percent, in comparison with about 1 percent in developed countries.¹¹ Electric power can be generated from local resources and offers an alternative to oil imports.

In Japan and South Korea the fully publicly owned and operated power systems are not under challenge, whereas in Europe and the United States privatization in electric power generation is seen as effective and justifiable. In developing countries, governments have tended to believe, because of the electric power sector's heavy capital requirements and its important function in economic activity, that the provision of electric power is appropriately treated as a natural monopoly and should remain in the public realm. Yet the climate is changing, and private sector interests increasingly are finding opportunities for investment in power. Chile and Malaysia are committed to divestiture of their public power utilities; the former has the most advanced divestiture program of any developing country.

Privatization of power brings financial, managerial, and technical resources to a country. The country benefits from expanded service and improved efficiency, and the government is able to devolve the investment and commercial risk to the private sector.

Which private sector approach is the most appropriate depends on conditions within a

¹¹ Gunter Schramm, "Electric Power in Developing Countries: Status, Problems, Prospects," *Annual Review of Energy* 15 (1990): 307-33.



PACER, A PROJECT TO PROMOTE PRIVATE POWER: INDIA

In India, revenues of many, if not most, public utilities cover only a small fraction of their operating and capital expansion expenses. In 1984, thirteen of India's fifteen state electricity boards had operating losses, which were equivalent 20 percent of the country's power sector budget in that year. Rates of return on invested capital in power sector are on the decline, down from 8 percent in the 1960s to about 5 percent in 1990.

The PACER (Program for the Acceleration of Commercial Energy Research) project has potential for replication in other less-developed countries with scientific and industrial infrastructures comparable to India's. This project seeks to take advantage of and perpetuate a trend in India toward a technologically dynamic market economy by supporting projects that

- Accelerate the pace of technology development and innovation by strengthening the line between science and enterprise
- Create an institutional environment in which technology innovation is fostered
- Stimulate public discussion on technology policy issues of national concern

Through financial assistance to consortia of manufacturers, research institutions, and

end users, the project seeks to help India use its talented science and technology community to greater advantage in finding solutions to its energy problems. Each consortium assisted by the project must meet the following requirements:

- It must develop new or innovative products and processes relevant to Indian energy sector
- It must consist of Indian and U.S. members
- Its technology must show significant potential for commercialization within 5 years

The project provides up to \$3 million to cofinance research and development and the costs of technology development on a conditional grant basis: if the product or process is a success, the promoters repay the funds on soft-loan terms; if it fails, the project finances the grant.

Source: David Jhirad, "Power Sector Innovation in Developing Countries: Implementing Multifaceted Solutions," *Annual Review of Energy* 15 (1990): 390-91.

country. The initial choice for both local and foreign private enterprise in countries with weak institutional management structures might be to enter into management contracts under which the commercial risk is assumed by the government or the power authority. In countries with stronger structures and positive statutory and policy environments, franchises and concessionary investments could be considered.

Opportunities for Private Action

Divestment of developing-country public power utilities to private sector ownership has been relatively rare; in Chile the process is well advanced, and Malaysia is committed to divest elements of its public utility. Investors have been discouraged by the high capital costs of the production and distribution functions of



POWER: A MULTIDONOR EXAMPLE FROM PAKISTAN

In Pakistan, A.I.D., the World Bank, and other donors have helped draft and establish the following elements of a scheme to support private provision of power:

- Legislation to permit the government to purchase power from private providers
- Procedures to permit a producer to feed into the national power grid
- Outlines of negotiated guarantees by government to purchase specified quantities of power from a private producer
- The administrative structure necessary to handle bid procedures and negotiations

With other donors, the World Bank has set up the Private Sector Energy Development Fund, under the control of National Development Finance Corporation, to finance up to 30 percent of private sector energy projects. (Because they do not have sovereign guarantees, the World Bank itself cannot lend directly to BOT projects, but this fund can be made available.) Initial funding was \$520 million, of which \$146 million was supplied by the World Bank and the remainder was supplied by the Japanese Export-Import Bank, the Overseas Development Agency of the United Kingdom, the government of Italy, and A.I.D. All loans made by the fund to BOT or BOO projects are guaranteed by the government of Pakistan. Loans may be subordinated to loans provided by commercial lenders. The fund is intended to overcome the classical problems of underdeveloped capital markets, high risks, and lack of private sector interest in financing large power projects.

BOO and BOT schemes are designed to increase the incentives for the private sector to construct and operate power-generating facilities. They encourage contractors to own equity interests in projects. Eight power generation projects are being considered. Together these projects would cost about \$2 billion and would have a production capacity of two thousand megawatts. All would be joint ventures by consortiums of domestic and foreign contractors. The private sponsors would mobilize the equity for each project.

For the Hab River Power Project, currently moving toward implementation, the World Bank, France, Germany, Italy, Japan, the United Kingdom, and the United States, will provide as much as 30 percent of project costs through the Private Sector Energy Development Fund. The rest of the costs will be covered by export credit agencies and private lenders.

The government will institute measures that provide financial incentives and reduce risks to lenders and investors. Important elements of this package are an expected rate of return providing a reasonable yield to private owners, provisions for repatriation of profits, and guaranteed purchase and price agreements between the power generators and the national utilities.

Sources: World Bank, "Developing the Private Sector: A Challenge for the World Bank Group" (Washington, D.C., 1989); A.I.D. staff.



public utilities as well as their management weaknesses, poor record in revenue collection, and high outage rates. The utilities, for their part, have so far to go to clean up their operations that it will be some time before they have achieved levels of financial and operational performance that would attract private sector equity investment.

Nevertheless, the demand for new investment in power generation is immense. Concessional lending to governments will be inadequate to cover current requirements for expansion. Indications are that private power will become a significant factor in filling the gap. Governments, with donor assistance, are seeking ways to invite autonomous power production and to create public-private partnerships in new investment.¹²

In a few countries, private enterprises co-exist with public utilities to serve even the larger markets for power. In India, for example, the Bombay Suburban Electric and Transportation Company, the Tata Electric Company

(also in Bombay), and the Calcutta Electric Supply Corporation are examples.

Greater needs for electricity in rural areas, for agriculture and other enterprise, can now be met through newer technologies that can be provided by the private sector. Decentralization of local power supply has been made possible by new technologies. Viable but less capital-intensive power generation techniques, such as small-scale hydropower, biomass conversion, and cogeneration at industrial plants, are eminently suitable for private development, by enterprises, community organizations, or self-help groups.

Experience

Private firms with experience in implementing BOT or BOO projects in the power sector in the 1980s have taken the initiative to propose further schemes in a number of developing countries. Under the BOT approach, a firm under private ownership, or a joint venture

A CONTRACT FOR POWER: CÔTE D'IVOIRE

In 1991 Côte d'Ivoire signed a contract with a French firm to provide management services for the state-owned utility; operation of the utility's power stations is to be transferred to a private Ivoirian company in which the French firm will hold 51 percent of the shares, with remaining shares held by the Ivoirian private sector. The utility will retain title to its assets and the government of Côte d'Ivoire will continue to set the fees paid by consumers, but operation, maintenance (including equipment replacement expenditures), and transmission and distri-

bution of electricity will become responsibilities of the Ivoirian firm.

The firm will receive a predetermined fee for its generation, transmission, distribution, billing, and collection services. The contract contains adequate incentive mechanisms for the efficient operation of the firm. The firm's responsibilities will include generation expansion planning, but investment decisions will remain under control of the government and the public utility.

Source: Private Power Reporter, June 1991, 4.

¹² Useful reviews of the sector and current needs and activities are provided by John E. Besant-Jones, ed., *Private Sector Participation in Power Through BOOT Schemes*, Industry and Energy Department Working Paper, Energy Series, no. 33 (Washington, D.C.: World Bank, December 1990); Schramm, "Electric Power in Developing Countries"; and James B. Sullivan, "Private Power in Developing Countries: Early Experience and a Framework for Development," *Annual Review of Energy* 15 (1990): 335-63.



with minority participation by a public body, sets up a project enterprise. The firm typically plans, designs, finances (usually under limited recourse), constructs, and operates the project facility. The firm owns the facility for a determined period, after which it transfers ownership to the appropriate public body in accordance with a negotiated schedule and at a specified or defined price. Examples of the BOT approach are the Shajiao B plant in China, the Hab River Project in Pakistan, and Navotas Power Station in the Philippines. Other countries following this approach are Costa Rica, the Dominican Republic, Indonesia, Panama, Thailand, and Turkey.

The World Bank and A.I.D. have helped countries prepare the ground for foreign investment in the power sector in conjunction with local investment and services. Issues covered have included technical system needs, rationalization of pricing, taxation, labor laws, and investment regulations, as well as procedures for negotiating specific joint venture project investments. In Indonesia, A.I.D. provided technical assistance in the legal and contractual aspects of private power, the pricing of electricity, and the process of soliciting and evaluating private power proposals. In the Dominican Republic, A.I.D. assistance led to a law of February 1, 1990, "Incentives for National Electricity Development."¹³

In Côte d'Ivoire a new firm, 51 percent owned by a French company, has contracted to manage the power utility. Other examples of steps toward privatization are found in Algeria, Costa Rica, Indonesia, and Pakistan.

The United States' PURPA was an act designed to break the public utilities' monopoly of power generation and diversify and promote private sources of energy. PURPA's principles have been applied in many developed coun-

tries and a number of developing countries. A.I.D. technical assistance has helped fifteen countries draft legislation and regulations to promote the production of electricity that can be sold to the public utility grid or independently introduced into underserved areas.

In India, through the Tata Consultancy Services (TECS) project, A.I.D. shares the cost of prefeasibility and feasibility studies for projects with potential for U.S. investment. TECS focuses on agricultural residues from sugar, rice, wood, and coconut processing, assessing commercially available residues and identifying entrepreneurs desiring to undertake biomass power generation.

Opportunities for private sector development of new sources of power occur when project possibilities are too small for development by the public utility, when investment by a utility is limited by its lack of investment finance or its commitment to traditional approaches, or when industrial or agricultural operators that are producing energy for their own needs can expand to produce power in excess of their own needs for sale to national and regional public utility grids and private users. For example,

- Agricultural generation (as from bagasse created in sugar production) and industrial generation of electricity in excess of generators' needs are found in the Dominican Republic, India, Indonesia, and Thailand
- In Nigeria, private firms dedicate an estimated 10 percent or more of their total investment in plant and equipment to on-site electricity generation in order to avoid reliance upon the poor-quality public supply

In Barbados and Ecuador, electricity is distributed by private enterprise under franchise from the public utilities.

¹³Two useful A.I.D. projects of the Bureau for Research and Development are "Private Sector Energy Development" (project 936-5738) and "Biomass Energy Systems and Technology" (project 936-5737).



Issues

USAID missions should take the following issues into account when considering support for privatization of electric power generation and distribution:

- Negotiations for BOT concessions can be lengthy and costly and may founder on issues of financing and of commercial, foreign exchange, or political risk.
- Prices to consumers are likely to be higher following privatization, for the following reasons:
 - A private firm will have to establish charges that are apt to be higher than those of a public body to cover its costs of depreciation and borrowing.
 - Costs of supplying customers that are scattered, or difficult to reach, have to be calculated into the fee structure, unless government agrees to underwrite a subsidy.
- Private power projects are often complex, requiring ten or more agreements among perhaps a dozen parties dealing with issues of percentages and foreign, local, and public participation, formulae for the sharing of risk, and other issues, such as the following:
 - How the privately generated energy will feed into public transmission and distribution grids
 - The alternative advantages and disadvantages of pricing formulae based on actual output (generally preferred by public utilities) or on plant capacity (the preference of investors)
 - Which financial factors can be passed to the utility in the consumer price formula: fuel costs, plant operations, interest rates, tax liability

- Trade-offs between, on the one hand, retention of the political influence of a public utility (on technical, financial, and distribution aspects of power supply) and its subsidy of consumers and, on the other hand, greater efficiency (in management and operations) and potential expansion of supply through the introduction of newer and more cost-effective technologies.

TRANSPORT

The transport sector offers the best examples of BOT schemes worldwide, most of them in developed or in fast-growing developing economies. Privatization of operations, as in franchising or contracting for the operations of bus systems, railways, and ports (with control of the infrastructure investment remaining with government), is the most common form of privatization. The BOT mechanism has not yet shown up in the poorer developing countries, where the public sector is only beginning to understand the steps toward deregulation that will be needed to stimulate competitive private sector involvement in the transport sector.¹⁴

In the urban context, governments are becoming aware that an effective transport system can help the economy of a city, whereas inferior systems retard economic progress. Overburdened transport systems cannot meet current and expanding needs and are dangerous to users. Moreover, government-owned transport enterprises are suffering heavy financial losses while private operators are providing services at a profit.¹⁵

¹⁴ A review of experience is offered by Scurfield, "The Private Provision of Transport Infrastructure."

¹⁵ Refer to informative discussion of issues and experience in Africa and elsewhere in Alan Armstrong-Wright and Sebastien Thiriez, *Bus Services: Reducing Costs, Raising Standards*, World Bank Technical Paper, Urban Transport Series, no. 68 (Washington, D.C.: World Bank, 1987); Richard Barrett, *Urban Transport in West*



Concerns about private sector involvement in urban transport relate to safety, breakdowns, pollution, and overcrowding of urban arteries. However, private transit systems, in their response to the market, have proven on the whole to be less costly, more capable of reaching remote or difficult areas, more flexible in providing specialized services, and able to carry on with lower fares.

Opportunities for Private Action

Transport is a sufficiently important sector, and one that is likely enough to create a significant drain on public resources, to warrant policy attention from donors dealing with issues of public and private roles in a country's economy. Typically, the objectives of a public transport agency are not defined in commercial terms, maintenance of infrastructure has been neglected, revenues are insufficient to finance expansion of infrastructure or purchase of new equipment, and accounting systems ignore the value of capital assets. Promotion of reformed policy objectives and private sector participation should bring more efficient construction and operation, introduction of a competitive environment, new approaches and technologies, and better accounting of costs and revenues.

Privately operated transport systems, whether legal or not, can be found in any country. Capital requirements for entry into this market are minimal, and small operators are able to function as economically as larger ones. Private operators are flexible, cover longer hours of the day, and often reach more remote and poor areas. The competitive push to keep

vehicles on the road leads to a high level of depreciation and disrepair, with attendant high accident rates. Donors can help promote formal public regulation of maintenance and other safety requirements as well as self-regulation by associations of owners and operators.¹⁶

Experience

World Bank assistance in urban transport has helped countries develop appropriate transport policies and investments, offered training and improvements in institutional capability, and emphasized enforcement of traffic laws and safety measures. Donors have helped analyze load factors and traffic patterns and design route structures, but have generally stopped short of organizing complete privatization of urban transport systems. However, the city of Calcutta, India, has privatized its bus system successfully, the municipal administration of Bangkok, Thailand, has been seeking a buyer for its services, and divestment is under discussion in Amman, Jordan, and Dakar, Senegal.

The findings of various World Bank-sponsored analyses of bus systems indicate clearly that a system is more likely to be viable and to be able to meet demand if the following conditions are met:

- The system is privately owned or is operated by a public body on a commercial basis
- Services are competitive
- Operators are able to select equipment appropriate to the routes they serve
- Regulation of service and fares by government is minimal, and operators' associations engage in self-regulation

Africa, World Bank Technical Paper, Urban Transport Series, no. 81 (Washington, D.C.: World Bank, 1988); Charles Feibel and Alan Arthur Walters, *Ownership and Efficiency in Urban Buses*, World Bank Staff Working Paper no. 371 (Washington, D.C.: World Bank, 1980); and World Bank, *Urban Transport: A World Bank Policy Study* (Washington, D.C.: World Bank, 1986).

¹⁶George E. Peterson, *Financing Urban Infrastructure in Less Developed Countries*, 3 vols. (Washington, D.C.: The Urban Institute for the A.I.D. Office of Housing and Urban Programs, March 1991).



- Different levels of service quality for different consumer needs are permitted

Indeed, privately owned bus systems typically operate at less cost per unit of output and are more flexible in providing specialized services and better able to charge lower fares and to offer access to remote areas.

An example of a public-private partnership in which the public sector acknowledges the right of private suppliers to offer transit services and the private sector accepts regulation of routes, vehicle maintenance, and safety, is found in Colombo, Sri Lanka. In the Philippines, oversight of regulations imposed on jeepneys is shared between the public sector and associations of operators.

In transport construction, a few well-known BOT projects include the Hong Kong Eastern Harbor Crossing; the Sydney, Australia, harbor tunnel; the Bangkok, Thailand, Second Stage Expressway; Florida High Speed Rail; Colorado toll road E-470, and Indonesia's Ciklampek-Cirebon toll road. The Chunnel, between France and the United Kingdom, is a BOO scheme under the aegis of the two governments.

Neither the World Bank nor A.I.D. is active directly in BOT or BOO construction projects in the transport sector. Outside of public sector construction projects, donor experience in the main has been in encouragement of private contractual responsibility for transport operations and road maintenance. Madagascar provides an example of divestment of freight handling functions at the port of Toamasina and of contracting out highway maintenance work. In Benin, Cape Verde, Ghana, and Guinea, transport projects of the World Bank have emphasized the development of a regulatory framework that will encourage competition, private sector maintenance contracts,

competitive procurement of spare parts, relaxation of tight government controls, and dissolution of state monopolies.

Issues

USAID missions considering aid to privatization efforts in the transportation sector should take account of the following issues:

- Beyond its role in traffic regulation and management, transport licensing, safety, and environmental regulation, a government may continue to consider it necessary to subsidize users who are poor or remote from the main transport network. Experience indicates, however, that neglect of unprofitable routes by private providers is, in practice, not as large a problem as is usually expected.
- Governments tend to invite interest in showy new construction projects, such as expressways and subway systems, rather than more mundane transport projects. Though the investments, and the attendant risks, are high, private investors tend also to be attracted to large projects, which they consider (not necessarily correctly) to be potentially lucrative.
- Conflict in objectives is possible; investors in a construction project may not retain a long-term interest in the project once the initial construction is completed, whereas governments emphasize the welfare aspects of transport service provision.
- Government must maintain a role in regulation of safety and of consumer prices; unless constrained by a regulatory framework that is established, rigorous, and transparent, private promoters will tend to seek monopoly profits from their investment.



- In privatization of operations, the issue of redundancy of the labor force can retard the process.

WATER AND SANITATION

Developing-country governments have not been able to keep pace with the needs for water and sanitation services. The health of expanding populations, including urban dwellers settling beyond the areas of public services, is at risk. Public systems, suffering from inadequate maintenance and investment, unskilled staffs, and political pressures to manipulate user charges and serve powerful customers, are hard-pressed to attend to all users, even those within established service areas. Furthermore, water authorities are constrained from expansion by fiscal and organizational deficiencies.

Traditionally, water and sanitation services have been considered the legitimate domain of governments, which have the responsibility to ensure maintenance of the basic water supply from natural sources and the provision of water to people. Yet private actors have always been on the scene, at least as water carriers and as entrepreneurial or community suppliers and purveyors of water, if not as agents of sanitation.¹⁷

The water and sanitation sector offers substantial opportunities for public-private partnership, if not for total private responsibility for the supply of water. A greater role for the private sector, under appropriate regulation and quality control, could lead to better coverage and service delivery, even if the public sector continues to be deemed the ultimate resource.

Opportunities for Private Action

The better-known opportunities for the private sector in water supply are those requiring some organizational base, some managerial skills, and possibly some technical expertise, but little in the way of capital investment. Community, nonprofit, and for-profit operators can act as vendors of water; as managers and regulators of piped water, wells, and standpipes; as contract managers of central latrines and sewers; and as maintenance contractors. Small enterprises can undertake metering, billing, and other discrete functions.

Urban areas offer multiple opportunities, not only for management of water and sewer networks under contract or franchise but also for water vending. In rural areas, however, where the options for the for-profit private sector are more limited, water vending may play a greater role.

The recycling of wastewater offers a number of opportunities for entrepreneurs, who can sell treated water for industrial uses, such as cooling, processing, boiler feeding, air-conditioning, fire protection, sanitary facilities, and maintenance of grounds. Wastewater treatment is technically complex, and treatment works are expensive to build, operate, and maintain. A less complex option is the collection of storm water drainage, which can serve the same purposes with less treatment. Moreover, the collection of storm water will alleviate overloaded sewer lines and lessen local flooding (as is recognized in Bangalore, India, where municipal authorities prepared an investment proposal for such collection).¹⁸

¹⁷ Coyaud, "Private and Public Alternatives."

¹⁸ George E. Hubler, *Possible Innovations in the Delivery of Urban Services in Metropolitan Bangalore* (Washington, D.C.: Center for Privatization for the A.I.D. Bureau for Private Enterprise, 1988).



WATER: SODECI—ABIDJAN, CÔTE D'IVOIRE

In 1960, SODECI, a subsidiary of the French water utility Société d'Aménagement Urbain et Rural (SAUR), won its first competitive bid to operate and maintain the water supply system of Abidjan, Côte d'Ivoire. Under a mix of lease and management and concession contracts, SODECI gradually added to its portfolio the management of sewerage and drainage systems and small urban and rural water supply systems throughout the country. Beginning in 1978, shares in the company were traded; ownership is now 46 percent SAUR, 46 percent private Ivoirians, 5 percent employees, and 3 percent state.

In the mid-1980s the government of Côte d'Ivoire attempted to sell to SODECI the water supply infrastructure (and associated debts) for the areas it served; the company lacked sufficient capital to make the purchase. Structural changes were accomplished in 1987, however, when a new concession for urban water supply, unlike

the previous lease, made the company responsible for financing future investments in urban water supply.

Thanks to SAUR's technical and managerial expertise and strong contractual incentives to cut costs, SODECI has achieved remarkable results in urban areas. By late 1980s, water losses had been cut to 12 percent and the fee collection rate had been raised to 98 percent for private consumers. Expatriate staff had declined from 40 to 12.

In Abidjan SODECI has the monopoly of water distribution in the formal system. Despite an impressive record of operation, the firm's coverage has not kept up with population growth. In response, private water vendors are taking water from public standpipes, from private connections to the system, and from illegal taps into the system to sell to users in unserved areas at a profit. SODECI has responded with plans to install additional standpipes to capture

Experience

Many examples are available of distribution of water by vendors, outside the piped water system, as are a good number of examples of water cooperatives and some of leases or contracts to supply water under regulated conditions and tariffs. Santiago, Chile, offers an example of the sharing of responsibility for municipal water between a private agency and a state-owned body. Completely private competitive provision of piped water is rare, though it does occur in Hawaii.¹⁹

The practice of water vending, which is almost ubiquitous in urban areas of developing

countries, has been harnessed by the urban authority of Santo Domingo, Dominican Republic, where ten companies are licensed to purify and package water and charge a maximum price set by the government. Competition, which is keen, is based on quality of service. In Tegucigalpa, Honduras, where water vendors have to charge high prices to cover the cost of investment in trucks that can negotiate the hills of the poor residential areas, the municipal government has been considering price controls but does not want to put the vendors out of business in areas that it cannot serve.

¹⁹ Triche, *Private Participation in Water Supply*.



WATER: SODECI—ABIDJAN, CÔTE D'IVOIRE (continued)

this market at a lower price than is now being charged by the unregulated suppliers.

During the earlier period of operation under lease, when the government established prices that discriminated against urban industrial consumers to subsidize rural investments and insisted upon provision of free connections for targeted urban groups, industrial users began to recycle water and use less costly private sources. Moreover, SODECI's performance in rural areas was poor. A centralized maintenance system resulted in high costs and long delays for repairs; community development initiatives were not well organized; villager participation was weak. Supervision by the Water Directorate was inadequate, and cost recovery policies were erratic.

The experience of SODECI exemplifies the limitations of management contracts and leases when government continues to control prices and investment policies. Never-

theless, the SODECI operation has been characterized by dynamic and responsive management, technical efficiency, and effective training, maintenance, and collection of fees. It presents an example of how a lessee or concessionaire can effectively develop local capacity.

Sources: George E. Peterson, *Financing Urban Infrastructure in Less Developed Countries*, 3 vols. (Washington, D.C.: The Urban Institute for the A.I.D. Office of Housing and Urban Programs, March 1991); Thelma Triche, *Private Participation in Water Supply*, Infrastructure Notes, WS-1 (Washington, D.C.: Infrastructure and Urban Development Department, World Bank, December 1990); World Bank, *Privatization: The Lessons of Experience* (Washington, D.C.: Country Economics Department, World Bank, April 1992).

In Spain and France the mechanism of franchise, or *affermage*, is common in water supply (in France *affermage* accounts for 65 percent of total supply). The mechanism has been exported to West Africa, notably to Côte d'Ivoire and Guinea, as well as to Chile, Guatemala, and Macao. The *affermage* of water supply in Côte d'Ivoire is cited often as an example of successful contracting for water services (see box above). The Société de Distribution d'Eau de la Côte d'Ivoire (SODECI), a company owned by a large French utility, which won its first contract in 1960, has consistently profited from its operations and has progressively introduced

and expanded technological and managerial improvements. The company has also transferred responsibility to local groups (formal and informal) and has sold a majority of its shares to local owners. SODECI's success was greater in Abidjan than in rural areas, however, partly because of a combination of excessive interference and inadequate controls by government in those areas. Beginning in 1987 the partnership between SODECI and the government was changed so that in urban areas, under full concession, the company will be responsible for investment and infrastructure development as well as services and in rural areas,



where it will continue to operate under a lease, it will help promote community responsibility for systems development and maintenance.²⁰

In Pakistan, for many years the government insisted on its role in developing and operating public tube wells to exploit groundwater and to control salinity in the Indus basin, in spite of the examples of successful systems of private tube wells in the same region. Farmers continued to establish their own wells (186,000 versus 14,000 government installations), which they have managed efficiently, with ingenious technology, without subsidy, and without damage to the aquifer. Finally, in the mid-1980s, recognizing that it could not furnish the maintenance, funding, and motivation required to maintain a reliable public system, the government changed regulations and removed restrictions on the operation of private systems.²¹

Issues

USAID missions considering aid to privatization efforts in the water supply sector should take account of the following issues:

- The willingness and ability of consumers to pay for water at a price sufficient to cover the supplier's costs is an issue that is commonly raised, yet studies indicate that recovery of costs from consumers is feasible.²²
- Case studies of the structure of water-vending operations in Benin, Honduras,

Indonesia, Kenya, and Nigeria reveal that consumers will pay as much as 12 percent of their income, and up to thirty-five times the price of municipal water, if it is more conveniently available from a vendor and if they consider the source to be safe.

- A.I.D. evaluations have found that consumers are willing to pay significant amounts for water and that systems that charge rates that fully reflect the costs of supply and maintenance are more reliable and successful than systems that do not.
- A number of municipal water supply companies in Latin American cities have proved that they can cover the costs of operation, maintenance, administration, and debt service, as well as a substantial portion of investment costs, from their own revenues and without subsidy or donation from government.

The experience of nonprofit agencies helping communities develop water supply and sanitation systems indicates that such systems are generally not viable, either technically or financially, without commitment and financial contributions from the communities involved. In rural areas there are many examples of self-help projects sponsored by nonprofit agencies that have not reached the point where the agencies can withdraw their administrative and financial support. In more successful projects, training and introduction of appropriate technologies have been necessary, but motivation

²⁰ Coyaud, "Private and Public Alternatives"; Triche, *Private Participation in Water Supply*; Thelma Triche, *Private Participation in Water Supply in Côte d'Ivoire and Guinea*, Infrastructure Notes, WS-2 (Washington, D.C.: Infrastructure and Urban Development Department, World Bank, October 1990).

²¹ Elliot Berg Associates, "Private Provision of Public Services."

²² Dale Whittington, Donald Lauria, Daniel Okun, and Xinming Mu, *Water Vending and Development: Lessons from Two Countries*, WASH Technical Report no. 45 (Washington, D.C.: Water and Sanitation for Health Project, May 1988); Laszlo Lovei and Dale Whittington, *Rent Seeking in Water Supply*, Sector Policy and Research Discussion Paper, Report INU 85 (Washington, D.C.: Infrastructure and Urban Development Department, World Bank, September 1991); Peterson, *Financing Urban Infrastructure*, Lewis and Miller, "Public-Private Partnership"; Office of Housing and Urban Programs, A.I.D., *Increasing Coverage: The Affordability of Urban Water and Sewer Service Extension in Ecuador*, Working Paper, 2 vols. (Washington, D.C.: February 1991); A.I.D., "Community Water Supply in Developing Countries: Lessons from Experience," A.I.D. Program Evaluation Report no. 7 (Washington, D.C., September 1982).



and local management responsibility appear to have been the most important factors once the technical and organizational foundation is in place.

Contracting to the private sector for management of a water and sanitation system may improve operations and reduce costs, but it may also perpetuate the inequities of a public system that serves well-off communities better than the poor, who might not be served at all. A franchise operator, who has more freedom to make management decisions than a contractor, may seek to include poorer clients and new areas in its profit-making operations to the extent that such new services would not be dependent upon the public system for expansion of infrastructure.²³

SOLID WASTE

In the United States, there was no public waste disposal in the nineteenth century, but the twentieth century brought commitment to public management of waste. Today, 80 percent of solid waste management is again private, as municipal governments seek relief from the financial and management burdens of waste collection and disposal. In developing countries, most solid waste collection and disposal remains the responsibility of municipal authorities. Their highly subsidized services, targeting middle- and high-income groups, rarely reach more than 50 percent of municipal residents.

A.I.D.-sponsored studies of solid waste collection in six countries have found that public collection of solid waste is not effective or ef-

ficient and that clients lack confidence in the reliability and quality of current services.²⁴ Expensive incinerators are lying idle, heavy costs are not covered by revenues (either from user charges or from recycling), agencies find it difficult to attract skilled managers, and the visibility of waste management problems attracts political criticisms.

Opportunities for Private Action

Waste collection is an activity that attracts private enterprises, both informal and formal. Political elements of municipal governments are beginning to look to the private sector as the cure for management and fiscal ills in the management of waste. From privatization they anticipate greater efficiency in management and financial discipline in service delivery, but beyond that they seek access to international capital financing for facilities and equipment.

Private enterprise operating under contract can introduce innovation into the process of waste management, gain the confidence of local government, and gradually take on broader responsibilities—perhaps subcontracting strictly private operations in defined geographic neighborhoods, possibly helping to finance equipment and train managers of community-based waste agencies.

In Costa Rica, where inefficient municipal services manage to collect barely half the solid waste produced daily, an A.I.D.-sponsored consultant identified a potential project. The consultant concluded that citizens of the municipalities are willing to pay for reliable and effective service, that privatization would improve and expand current services, and that

²³Thelma Triche reports in *Private Participation in Water Supply in Côte d'Ivoire and Guinea* that in Côte d'Ivoire, SODECI has taken such a step.

²⁴Frank Ohnesorgen, "Privatizing Solid Waste Management: Studies in Developing Countries: Case Studies: Costa Rica, Honduras, Ecuador, Botswana, Swaziland, Morocco," International City/County Management Association seminar coordinated for the A.I.D. Office of Housing and Urban Programs, Washington, D.C., November 1991.



municipalities would cooperate to establish a properly managed regional landfill.²⁵

In Tegucigalpa, Honduras, where the municipality lacks the financial capacity to maintain equipment and finance adequate services, a consultant found that with policy changes and reorganization, a competent public staff could supervise the privatization of commercial and industrial collection routes and landfill management to cover 95 percent of current needs (compared with 60 percent at present) at affordable cost to the user.²⁶

The city of Gaborone, Botswana, is prepared to consider competitive bids for a franchise for collection of solid waste from businesses in specified areas.

In Swaziland the cities of Mbabane and Manzini are considering recommendations for privatization of waste collection in commercial and industrial areas (or about one-third of current waste in the two cities) and development of an environmentally sound landfill operated by a private firm.

Engineering consultants have recommended to the municipality of Santo Domingo, Dominican Republic, a range of options for privatizing the currently unsatisfactory system of collecting and dumping waste.²⁷ The preferred option is a franchise for the entire service, the second is for contracting out, and the third is for a pilot franchise program. Projections indicate that an investor could collect waste and operate a landfill for an average, affordable, fee of about US\$1 per household, with potential for cross-subsidization of poor clients by large users.

Experience

In the newly industrialized states of Asia and other more industrialized developing countries, informal private networks play an important role in waste control. Self-employed recyclers collect and sort waste paper, plastic, and metals and sell these materials to warehouses where further sorting, consolidating, and packaging for industrial uses takes place.

The government of Hong Kong is seeking top technology for waste management and is prepared to pay the costs of new, state-of-the-art facilities. The first BOT concession for a waste transfer station as a joint venture between a U.S. firm and a local firm is under way. Construction of the station should be followed by arrangements for a second transfer station and for two more contracts—one for barge shipment and the other for recovery of tires.²⁸

Having determined to analyze options for the private delivery of municipal services, the municipality of La Paz, Bolivia, requested A.I.D. assistance to plan for privatization of collection of solid waste, landfill operations, and street cleaning. A team from the Price Waterhouse International Privatization Group was brought in to diagnose the current service delivery system, develop alternative privatization scenarios, prepare solicitation documents, evaluate proposals, and draft contracts for final negotiations. The team helped develop a plan that would address legal, technical, and operational issues that could affect implementation of the privatization.²⁹

²⁵ Ohnesorgen, "Privatizing Solid Waste Management."

²⁶ Ohnesorgen, "Privatizing Solid Waste Management."

²⁷ Wesley D. Boles, "Dominican Republic: Prospects for Privatization—Solid Waste Collection," report for the Center for Privatization (Washington, D.C., December 1986).

²⁸ George H. Sanderlin, "Privatizing Municipal Solid Waste Services in Asia," paper presented to the International City Managers Association, for Browning-Ferris Industries of Houston, Texas (Washington, D.C., November 19, 1991).

²⁹ Price Waterhouse, "Private Provision of Solid Waste Management Services in La Paz, Bolivia," paper presented by Bob Donovan at a seminar of the A.I.D. Office of Housing and Urban Programs (Washington, D.C., November 19, 1991).



Entrepreneurs are now attracted to investment in more modern waste-to-energy plants. The informal sector collection network will have a contribution to make to such new businesses, but may have to collect waste closer to its source, rather than from a traditional landfill, in order to serve the conversion industry.

Issues

USAID missions considering aid to privatization efforts in the solid waste sector should take account of the following issues:

- Many local governments believe that solid waste management must remain within the public domain because it is essential to public welfare (and therefore should exclude no one), it is nonrivalled (in the sense that the benefit to one resident does not diminish the benefit to another), and nonexclusive (in that there is an overall benefit, beyond the benefit to a particular client).
- Service need not be accomplished by public staff, equipment and funds, though the public welfare aspects of waste management dictate that governments must retain ultimate responsibility for the presence or absence of adequate services.
- If services to upper-income clients only are privatized, neither the public nor the private sector will have the ability to cross-subsidize services to low-income clients.
- In a sector as environmentally sensitive as solid waste, the existence of environmental protection laws, with mechanisms to enforce them, is important.
- The degree of private sector responsibility for protection measures must be negotiated.
- If a private firm takes charge of actions, accountability for costs must be clearly specified.



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Appendix A

TRANSFERS OF PUBLIC SERVICE FUNCTIONS TO THE PRIVATE SECTOR:
STRUCTURAL CHARACTERISTICS OF OPTIONS

<i>Option</i>	<i>Public Sector Role</i>	<i>Private Sector Role</i>	<i>Comments</i>	<i>Examples</i>
Service contract	Investment costs Establishment of tariffs and quality targets Management of physical and commercial aspects of the system Fee or lump-sum payment to the contractor	Operation of specified services No maintenance No commercial risk Response to performance incentives, as appropriate	Firm may be profit or non-profit Short contract duration (5 years or less) enables competition Suitable for small and medium enterprises with moderate skills and little capital Often the initial step in privatization of services	Meter reading Billing Collecting Computer services Training (Chile, El Salvador, Peru)
Management contract	Investment costs Establishment of tariffs and incentives to improve operations Payment of a fee to the contract manager Commercial and financial risks	Maintenance of the facility and equipment Provision of service No financial exposure or commercial risk, because revenues go to the public authority	Short to medium duration of contract permits competition at the time of renewal Working capital may be needed Contractor can be held to quality targets	Water supply Maintenance of transmission lines and connections Waste management Parks (Brazil, Dominican Republic, Indonesia)
Franchise	Licensing and monitoring Possibly, supply of capital equipment	Cost recovery from users Fee for the license	Competition can call for a low bid to provide the stated level of service Excess revenues can be retained Commonly covers a defined geographic area	Water supply Taxis Bus service Waste removal Telecommunications (Not common in developing countries)

<i>Option</i>	<i>Public Sector Role</i>	<i>Private Sector Role</i>	<i>Comments</i>	<i>Examples</i>
Lease contract, or <i>affermage</i>	Construction New investment in the physical plant	Fee to the government Operation on commercial terms (with attendant risks) Maintenance of the facility Working capital Return of the facility at the end of the contract	Fee may be performance based Contract duration of 6-10 years, renewable up to 20 years, discourages competition Often a joint foreign-local enterprise	Industry (Togo) Power (Côte d'Ivoire) Water (Abidjan, Côte d'Ivoire, until 1987, when the arrangement was changed to a concession; Guinea) Ports (Nigeria) Mining (Guinea)
Concession for construction	Regulatory oversight and approval of rates Negotiable role in assumption of risk (commercial, foreign exchange, political) Negotiable assumption or guarantee of debt to bilateral or multilateral lenders	Construction, expansion, and operation of a facility for an agreed period Equity investment Debt Working capital Project risk Commercial risk	Complex negotiations are required to ensure financial and commercial viability for the operator and to save consumers from monopoly exploitation Each scheme tends to be transaction specific	Hong Kong East Harbor Crossing (build-operate-transfer) Chunnel (build-own-operate) (Few developing country examples have actually begun implementation) Power plants Port facilities Free trade zones Toll roads Bridges and tunnels Subways Water treatment Water distribution Solid waste disposal
Build-operate-transfer or build-own-operate-transfer	Takeover of ownership of project after a determined period in accordance with specified terms	Design, construction, operation, and maintenance for fixed term (long enough to recover investment costs and make a profit), followed by transfer back to the government	Private firm or consortium may make an unsolicited offer or respond to a request for bids Equity participation usually is 10-30%, with the remainder from bilateral and multilateral lenders and under export credit agency guarantee	
Build-own-operate	Grant of controlled monopoly in return for a pledge to raise money and build a facility Continuing role only in regulation (e.g., of tolls, safety, maintenance)	Construction, operation, and maintenance without recourse to the public sector (except perhaps in coverage of risk) Achievement of standards of quality and level of supply	Willingness of firm to take commercial risk depends on regulatory environment Some firms have withdrawn after long negotiation	(Strong interest and some progress in Indonesia, Malaysia, Pakistan, the Philippines, Thailand, Turkey)

<i>Option</i>	<i>Public Sector Role</i>	<i>Private Sector Role</i>	<i>Comments</i>	<i>Examples</i>
Purchase of product	Guarantee of purchase of a defined quantity of the product at an agreed price	Production of a service commodity, either directly or as a by-product	Promotes entry of newcomers into the market Requires demonopolization of public utilities	U.S. Public Utility Regulatory Policies Act (Enabling legislation now in 15 developing countries; projects in the Philippines and Thailand)
Territorial concession	Encouragement and approval Perhaps licensing and limitation on expansion of the territory served Regulation of tariffs and perhaps of quality of product No fee collected	Organization (as community, self-help group, cooperative, or enterprise) Procurement and distribution of the product	Usually a spontaneous economic or social response to a need or deficiency of services Beneficiaries are defined by the group Construction usually is not necessary, though vehicles may be Small scale of many operations limits the impact of government oversight	Electricity (Santa Cruz, Bolivia) Urban water (Chile; Guatemala; Santo Domingo, the Dominican Republic; Santa Cruz, Bolivia; Ecuador; El Salvador) Itinerant water vending (Indonesia) Water kiosks (coastal Kenya) Refuse collection (Ibadan, Nigeria) Telephones (Brazil)
Enclave development	Tolerance of services to an exclusive consumer group Possible authorization of hookup to the public grid	Market-driven entrepreneurship	Services typically include water, power, waste management, and an internal transport network	Tourism complexes Housing developments Industrial estates Teleports (Jamaica)

Appendix B

ILLUSTRATIVE EXAMPLES OF PRIVATE PROVISION OF PUBLIC SERVICES IN TELECOMMUNICATIONS, ELECTRIC POWER, TRANSPORT, WATER AND SANITATION, AND SOLID WASTE: A.I.D. BILATERAL AND RELEVANT CENTRAL PROJECTS

<i>Sector Problem or Project</i>	<i>Private Sector Involvement</i>	<i>Intervention</i>	<i>Impact or Beneficiary</i>	<i>Subsidy Involved</i>	<i>Comment</i>
GENERAL					
Privatization and Development: 940-0016 (PRE/EM)	Privatization	Services to client country or USAID mission to foster privatization as a development tool	Available upon request of client and USAID buy-in	Technical and analytical services for any stage of privatization	<i>Experience:</i> technical assistance and analyses toward privatization of industries (Morocco and the Philippines), Pakistan, help with the privatization of a telecommunications corporation (Pakistan), help with privatization of solid waste service (Bolivia)
Capital Project Fund (if authorized and appropriated)	Projects that encourage economic development by creating, replacing, or rehabilitating physical assets and that generate procurement of U.S. goods and services	70% for procurement and construction, 30% for technical services E.g., build-operate-transfer project, private-public coventure, piggyback on public sector facilities, contracted construction, and support for privatization of existing institutions	Recipient country public service or private sector Citizens benefiting from development	Financing of a portion of project costs, to leverage funds from private lenders and investors and other donors Intent is to request authority also for a guaranty of up to 50% of a commercial loan	Request to Congress for fiscal year 1993 funding Could include telecommunications, solid waste management, water supply and treatment, and electric power

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POWER					
NEPAL— Small Hydropower Program (National Rural Electric Cooperative Association case study)	Nonsubsidized development of local small hydropower alternative to costly diesel-powered mills for grains and oilseeds	Swiss aid to a private machine shop to design, fabricate, and install propeller turbines to drive grain-milling machines	Remote, but dense, populations ineffectively reached by government programs that are bureaucratic, costly, and dependent on external financing	Initial aid to the private machine shop and sponsorship by private limited company engineering and consulting subsidiaries of the United Mission to Nepal (a nongovernmental organization)	Design of turbines was driven by specific user needs, not by general desire for electricity Existence of the capability to fabricate turbines and continuing involvement of nongovernmental organizations in installation were essential to the replicable success of the project in countries where appropriate end uses existed and sufficient interest and motivation could be found
SOLID WASTE					
BOTSWANA— Privatization— Gaborone Solid Waste Disposal: 633-0255	Privatization of solid waste disposal in Gaborone	Technical assistance to develop privatization strategy training, develop contracting procedures, identify entrepreneurs, and develop contracting for procurement of equipment	Urban residents will receive new or improved services through management contracts and procurement of new equipment	Grant to provide technical assistance, equipment, and training	Implementation of privatization transaction is subject to the government of Botswana accepting privatization recommendations of the consultant and government and municipal Steering Committee members

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SOLID WASTE (continued)					
Private Provision of Social Services (PRE/H)	Demonstration of feasibility of private sector provision of solid waste services Strengthened municipal capacity for coverage through greater reliance on the private sector	Technical assistance, first in a survey of feasibility and opportunities and then in supporting implementation of capital projects	Alleviation of environmental degradation affecting urban residents Upgrading of municipal services	Technical expertise provided	<i>Countries involved:</i> Botswana, Costa Rica, Côte d'Ivoire, Ecuador, Haiti, Honduras, Mali, Morocco, Senegal, Swaziland, Togo, Tunisia Biggest issue has been opposition by unions of public employees
INDONESIA—Bandung: Municipal Cleansing Enterprise (Harvard Business School study)	Privatization, allowing profit to private firm, but not compromising environmental quality of service provided	Creation of semiprivate waste management agency (PDK) for a major city, to improve waste collection and disposal	Residents and commercial firms of a major city (population 2 million), who received better services Municipality, which was relieved of the management burden and the deficit	Loan funding from the Asian Development Bank and the government for a network of transfer stations, a composting unit, and a pilot landfill scheme Municipality retained a relatively strong influence over PDK activities, but PDK was organizationally separate and had a clear mandate to become profitable so that the subsidy could be reduced PDK was able to build the needed fundamental institutional competence and to stimulate innovative further devolution to other agencies, e.g., for billing, training, composting, and sanitary landfill	Wholesale conversion to private enterprise will not necessarily resolve all inadequacies of public waste management Conflicts of interest are inherent; strong safeguards are required Technical assistance from outside parties helped inform decisions as to the technologies to be used Existing informal operations (scavenging) can be incorporated

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SOLID WASTE (continued)					
HAITI— Water and Sanitation for Health (WASH): 936-5973	Privatization of solid waste management in Port-au-Prince	Analysis of a nongovernmental organization's proposal for waste management Market survey and financial analysis Workshop to discuss issues	Privatization delayed following the coup of September 1991	Analysis by WASH Consultant from the Cooperative Housing Foundation to work with community groups on their role in waste management	Survey indicated willingness to pay by various classes of users Substantial potential for composting organic materials not being exploited Informal collectors account for 20% of household waste Plan calls for division into 106 collection zones small enough to allow waste collection by small entrepreneurs with one medium-sized truck
WATER AND SANITATION					
Water and Sanitation for Health (WASH): 936-5973	Extensive experience in rural water and sanitation now being expanded to studies of technical, financial, and managerial issues for private participation in urban water supply and sanitation	Analysis and implementation in the provision of potable water supplies and sanitation to urban, periurban, and rural communities Managing wastewater and solid and industrial wastes Policy formulation, a framework for assessing the wastewater-solid waste situation, finance, and administration	Water users; urban, periurban, and rural residents Local governments responsible for water, wastewater, and solid waste	Feasibility study Technical and financial analysis Workshops and conferences Implementation	Technical reports, information networks, and databases are available Expertise is accessible through mission buy-in <i>Example:</i> Indonesia, strategy for increasing private sector participation in urban water supply





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WATER AND SANITATION (continued)					
BOLIVIA— Water and Sanitation Project: 511-0582, 1983-9	Savings and loan sponsorship and financing of installation of potable water and sanitation for poor urban households Private suppliers and local labor	A.I.D. loan and technical assistance to apex private savings and loan Onlending to local savings and loans for expansion of two cooperative and one municipal water systems Lending by savings and loans to individuals of two communities for installation of household storage tanks	Better water supply for 16,500 families with income below the 70th percentile in five periurban and urban communities Improved capacity of the savings and loan system to meet needs for water supply Enhanced experience in design and installation for two water supply cooperatives	Concessional loan to the central bank, but rates for the savings and loan system are set at market rates Grant for technical assistance in financial planning, project design, and monitoring and for training in planning and management of water supply and sanitation by urban cooperatives	Costs of service are affordable, at less than 3% of monthly income Community cooperatives proved capable of managing expanded water supply systems Not all projects complied with national standards Evaluation concluded that technical assistance in planning, design, construction, and operation will continue to be needed for new installations
INDONESIA— Private Participation in Urban Services— PURSE: 497-0373	Private investment or contract services in water, wastewater, and solid waste Up to 5 build-operate-transfer or build-own-operate schemes Up to 6 contracts	Expertise in analysis, policy reform, and drafting of standards and regulations Technical assistance to potential private service providers Organization of demonstration public-private partnership projects	Urban residents receiving new or improved services through concessions and contracts that have augmented infrastructure services capacity	Partial financing for demonstration projects, leveraging other equity and loan financing Technical expertise and training	Focus on policy creation and implementation to be based on analysis of a cost-benefit balance adequate to attract the private sector Government role in sharing of risks to be determined by negotiation for each project