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Public–private partnership in water supply and sanitation in Sub-Saharan Africa

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Purely public water supply systems are characterized by high costs, insufficient supplies and chronic deficits that are covered by central government transfers. The private water supply programme in Abidjan has not met its coverage targets either, but the system has remained financially solvent and fostered a rapid growth in capacity through the informal sector. The material reviewed here and the experience of developing country water systems in general support several conclusions. (1) Water vending is common in developing countries, which suggests that charging for water is not culturally unacceptable. Demand for wastewater services is low, but surcharges could be imposed on water usage to cover some sanitation costs. (2) Incentives are critical to sound management of water supply and sanitation services. They are typically part of the structure of private firms, but are rare in publicly run systems. (3) The private sector's role in the provision of water supply and sanitation can be extensive. Regulation of private activity and quality control by public authorities is essential to maintain competition and ensure proper and fair operation. (4) Public efforts to supply water can be supplemented by a government-regulated, parallel system to increase the amount of water available. Normally these systems involve trucked water, but private sales outlets with pipe infrastructure should be encouraged where feasible. (5) Even where the public sector decides to control and operate the water supply and sanitation system, some partnership with the private sector is possible through contracting out specific tasks such as billing, metering, maintenance of various components or tracking water losses. Finally, the supply of water is an ideal activity for a public–private partnership. Both sectors have comparative advantages that are best applied in conjunction with the other.

Water is an important public health issue in developing countries, and is an investment that has figured prominently in donor efforts to improve health status. Indeed, water quality and quantity have been the focus of a special UN 'decade'.

Much of the concern has been on access to water supplies – to ensure that households have adequate supplies to meet drinking, cooking and cleaning requirements – and the quality of water – to minimize contact with potentially harmful vectors and infective agents. The technology of water supply and sanitation has received extensive attention, particularly through the United Nations Development Programme (UNDP), the World Bank, and the United Nations Children's Fund (UNICEF). Similar efforts on a more modest scale have occurred through a number of bilateral donors. Building systems, upgrading existing networks and expanding capacity have all been cornerstones of donor activity in the sector, whether in rural or urban areas. However, the issues of how to organize, manage and pay for services has received much less consideration.

In almost every country of the world, governments have taken responsibility for ensuring provision of water supplies and sanitation in urban areas. That has usually meant obtaining, transferring, purifying and distributing water by a government entity, and has typically involved at least parastatal if not direct government management. Sanitation arrangements have been similar. Coverage, however, has lagged in most countries, partly due to rapidly expanding urban populations.

Other important causes of inadequate services are mismanagement and lack of funds. The fixed costs of infrastructure investment are generally forthcoming from donors. The recurrent costs of operating and maintaining the system, however,

come from government coffers. Thus, either charges are imposed on users or general revenues are allocated to cover water and sanitation costs. Both options entail political costs and are difficult to execute, as is discussed below.

The multitude of problems with constructing, maintaining and operating water supply and sanitation systems requires consideration of new approaches. One area that has been left without consideration is harnessing the private sector to improve efficiency and lower costs. This paper is concerned with the provision of public water supply and sanitation services in developing countries, with special reference to Africa. It explores the questions of who delivers such services; the extent to which the private sector is involved; the strengths and weaknesses of existing patterns of service delivery; and alternative means of improving service delivery cost, efficiency and effectiveness, with special reference to the role of public–private partnerships.

Why a public–private partnership?

Government service delivery efforts often are hampered by rigid civil service regulations, inflexible bureaucratic requirements, high costs and lack of incentive to ensure efficiency. On the other hand, private sector efforts ignore equity concerns, are able and likely to overcharge for services where there is no competition, and are unable to respond to needs that have community benefits but lack private benefits. Thus, both the public and private sector have limitations, and neither is necessarily the ideal delivery entity.

Recent research indicates that private operating costs to supply water in the United States are about 25% below those in the public sector (Crain and Zardkoohi 1978). Morgan (1977) and Crain and Zardkoohi (1978) found that the discrepancies in cost can be attributed to relatively low labour productivity and under-utilization of capital in publicly run systems.

In the developing world, especially in countries that gained independence within the past two decades, the desire for government to serve the people has caused a broad move towards public service provision and minimal involvement of private firms. This pattern is particularly dramatic in Africa where socialist regimes spread rapidly in the late 1960s and 1970s. During that same period, public authorities continued development of not only water and sanitation systems, but also public transportation services, free health care and education and nationalized electricity and telecommunications. The list of promised actions on the part of governments of developing countries, however, overlooked the management and financial requirements of government service provision.

The world recession in the 1970s caused a reduction in world demand for primary products, the life blood of developing countries in Africa. Depressed economic conditions reduced government revenues just as expansion and consolidation of public services was occurring. Thus, resource reductions combined with an over-ambitious plan undermined public sector efforts. Recent evaluations of service provision in Africa indicate that the existing public systems are too rigid and are unworkable over the long term, and suggest that steps to 'privatize' government efforts might alleviate some of the problem by increasing efficiency and service and lowering costs (Marceau 1985, Roth 1985, Hanke 1984, Cowan 1984). Private firms can usually provide services to private individuals more efficiently than the public sector, largely because their survival depends on meeting the needs of consumers. A competitive environment creates strong efficiency incentives.

A cause of reluctance to open up public service provision to private firms is concern over pricing policies. Governments have been sensitive to the needs of low income households and have priced services accordingly. If services go private, how will it affect lower income families? First, given the evidence discussed below, low income families are willing and able to pay for services they deem necessary, and will pay a premium to obtain them. Black markets and informal service providers thrive in low income areas in Africa because cheaper public services are unavailable or involve unacceptable time and waiting costs. Examples of black markets in water supply (e.g. in Senegal, Kenya and Benin) point to the high demand and inadequate public supplies that lead to a response by the informal sector. Secondly, it should not be assumed that having a solely public system is necessarily

equitable. 'Free' services in any society are paid for by taxpayers; if only the upper classes receive water and sanitation services, the poor subsidize their consumption.

Reforms can be achieved through contracting out specific subactivities, such as billing, computer work, construction and maintenance, and through long-term leases to the private sector for activities which government can regulate and oversee. Market forces can improve allocation of resources and lower costs. Where market failure occurs, government can often intervene to rectify the problem. For example, where a natural monopoly exists (that is, where costs will be higher if more than one firm is involved, as may be the case with a piped water system) government can regulate activity in the sector to keep prices down and to maintain quality standards.

The role of private entities in supplying water and sanitation

The private sector's role in water and sanitation occurs through direct government endorsement of private activity, through contract and leasing arrangements with governments and by default where public authorities have been unable to meet demand. The private sector currently supplies water to urban residents in most developing countries, but generally only to lower income households. This section argues that public–private partnerships in water supply will benefit society, lower costs and raise the quality of water supplies.

Developed countries

The developed countries are generally dominated by publicly owned and operated water and sanitation facilities. The one exception is France. In the USA, although 60% of community water facilities are investor-owned, they represent only about a quarter of total water supplied. All water authorities in the USA are regulated, but they are usually managed and operated by private firms. In the wastewater sector, some municipal water authorities do an undocumented but modest amount of contracting out to private firms (Bendick and Hatry 1982; Hanke 1984).

In contrast, private firms are responsible for about 55% of all water consumed in France. Historically, French municipalities hired firms to construct, manage and operate water supply systems under long-term contracts called *concessions*, or built the system themselves and contracted out the operations and maintenance. The latter method is known as *affermage*, and is being used increasingly due to the availability of concessionary financing for municipal capital investment. The private sector also provides sewerage services and water treatment under contract to municipalities.

Services typically contracted out under medium- or long-term contracts in developed countries include leak detection, operation of a water treatment plant, meter reading, customer billing or data processing. This form of arrangement is known as *regie interesse* (Bendick and Hatry 1982).

Sanitation services also are contracted out, although little is known concerning the preferred method of involving the private sector. In the USA and France some wastewater services are contracted out (Bendick and Hatry 1982, Hanke 1984). Thus, the private sector is a natural complement to public efforts to provide water in urban areas.

Developing countries

In the developing countries, public authorities have committed themselves to providing water to urban dwellers. Sanitation, although a necessary complement to water supply, has been neglected in the less developed countries due to low demand by residents and the high costs of installing a permanent pipe network and associated treatment facilities.

Colonial history has left a strong stamp on the structure of water systems in developing countries. In many ex-British colonies water is seen as a right, although these assumptions are coming increasingly into question as government budgets are squeezed more tightly. In contrast, the ex-French colonies adopted the French model, and those that have retained the arrangement have relied heavily on private firms and institutions in the provision of water supply and sanitation.

Table 1 shows how much of Africa's urban water supply needs the public sector has met. The table should be treated with caution as the data on which it is based are not very reliable: the figures give an overall idea of service levels rather than accurate measurements of levels or rates of change. Nevertheless, it can be seen that between 1970 and 1980 the proportion of the population covered by water supply services in most African countries rose considerably. Especially notable are places like Lesotho and Senegal where the percentage covered doubled or tripled even though the population grew rapidly. Overall, coverage in Africa rose from under 20% to almost 30% of the population. Data from the 1980s suggest that public water provision in Africa is almost exclusively urban. Urban coverage reportedly ranges from 35% in Cameroon to over 90% in Uganda and Burundi. In Africa, access is most likely to be in the form of a water standpipe. In contrast, in the developing world as a whole, almost twice as many people have a household connection as have access to standpipes. Africa as a whole also lags behind the rest of the developing world in water supply coverage. Only 60% of its urban population has access to 'safe' water (see Table 1).

Table 1 Percentage of population with access to safe water in some Sub-Saharan countries

	Total population		Urban population (1980)		
	% with safe water in 1970	% with safe water in 1980	% with house connection	% with stand-posts	% with safe water
Chad	27.0	26.6			43
Ethiopia	6.0	14.7			58
Somalia	15.0	31.4			58
Mali		9.8	20	17	37
Burundi		21.4	22	68	90
Rwanda	54.7		30	18	48
Burkina Faso		31.6	16	11	37
Zaire	17.9	11.0			43
Malawi		41.0	53	24	77
Sierra Leone	12.6	12.0	20	30	50
Tanzania	42.2	13.0			88
Guinea	14.5		16	52	68
Central African Republic		19.4			40
Uganda	22.0	35.4			100
Benin		20.2	10	42	52
Niger	20.0	32.8	28	12	38
Malagasy Republic	11.0	20.1	19	61	80
Sudan		46.0			49
Togo		38.8	14	56	70
Ghana		47.0	26	46	72
Kenya	15.0	24.8	59	26	85
Lesotho	3.0	14.1	24	13	37
Mauritania	61.0	83.9	20	60	80
Senegal	12.0	38.0	33	44	77
Angola		25.8	30	55	85
Liberia		25.1			64
Zambia	37.0	46.1			86
Cameroon		26.6			35
Congo, People's Republic	27.0	18.0			40
Ivory Coast		23.0			50
Africa average	19.6	28.5			61.2
LDC average	36.7	52.2	22.9	70.3	44.9

Source: Sud (1984) based on data from United Nations (1983).

Although Table 1 provides information on the estimated proportion of the urban population served by water services, these figures can be misleading. The existence of a water pump within a given radius of a dwelling neglects the common occurrence of broken or otherwise inaccessible services. Similarly, household connections do not guarantee service or water quality since insufficient water pressure, water shortages, system leakages through illegal taps and deteriorating infrastructure severely affect the operation of the system for any individual household; and such breakdowns are frequent in most developing countries.

Sanitation coverage lags well behind water supply coverage. Wastewater is not a politically popular service. Although the health hazards associated with accumulated stagnant water, used water run-off and faecal accumulation may justify government-subsidized activity, interest in investing in this service is minimal. Private sector involvement in sanitation in developing countries is concentrated in on-site methods such as pit latrines, septic tanks and cesspools.

Problems of publicly provided systems

As already mentioned, most water systems in the developing world are built and operated by public entities. Significant problems exist under current arrangements, primarily due to over-centralization and politicization, and poor management.

Over-centralization and politicization

As in most developing countries, central governments in Africa like to involve themselves in the operations of water authorities, to set policy for them and effectively to use them as tools for political ends. Forcing water authorities to absorb unskilled civil servants, as is the case in Egypt (USAID/Cairo 1985) and keeping wages low creates large, unskilled staffs who cannot effectively operate or maintain the system. Indeed, staff quality in public water supply and sanitation authorities is of major concern to the US Agency for International Development (USAID), the Pan American Health Organization (PAHO) and the World Bank (Gonima 1985, USAID/Cairo 1985, Rosenzweig 1985, Hewitt 1985).

Even more disruptive is central government insistence on approving tariff increases. Although government policy may be one of full cost recovery (as in Somalia and Zambia), political pressure rather than financial needs have determined government action in the past. Such practices have particularly plagued water supply systems in West and East Africa (Hewitt 1985). Because raising the cost of water can be politically damaging, governments instead have shifted the burden to taxpayers by subsidizing the water supply system. Moreover, although identifying and sanctioning non-payers is critical to cost recovery objectives, often the transgressors are government ministries that cannot be penalized. Thus, water authorities are impeded both from setting realistic charges and from collecting those that are imposed.

Preventing managers from making the most basic decisions regarding the operation of the water authority has seriously hampered efficient operation in much of the developing world, and in effect has created disincentives to productivity and management (Winter 1985, Gonima 1985). A thorough experiment in Sri Lanka, which involved the host government, USAID and the World Bank, has demonstrated the importance of decentralization and of making managers responsible for their actions. Recent reorganization featuring decentralization, tariff adjustment and reduced government involvement has led to increasing efficiency and greater cost recovery (Sen Gupta 1985).

Management

Water system design has traditionally been driven by engineering criteria, with little if any concern for the long-term operation and cost implications of technological decisions. In addition, engineers have typically been selected to operate and manage the water supply and sanitation systems. These characteristics, combined with the political overlay, have resulted in poorly operated and administered systems.

Some of the managerial difficulties stem from central government interference in what is best handled by municipalities, but not all. Hiring and retaining skilled employees; establishing incentives for performance; keeping track of maintenance needs (when funds are short, maintenance often is postponed indefinitely, with serious consequences); ensuring customers are metered, billed and sanctioned for non-payment; keeping track of water usage and users; and locating and correcting sources of water loss (illegal users, infrastructure deterioration or unbilled customers) are basic requirements of efficient management, but are rarely introduced (Hewitt 1985, Roth 1985).

Two major exceptions to this pattern exist in Africa: the private SODECI (Societé de distribution d'eau de la Côte d'Ivoire) system in Ivory Coast, and the parastatal-controlled system in Botswana. These are outlined in the next section, followed by a broader discussion of promising approaches from the developing world at large.

Approaches to public-private partnerships

Ivory Coast

Public–private partnership in the formal sector is largely governed by the public sector's policies, which are shaped by a combination of colonial legacy, the government's perception of the value and role of the private sector and the efficiency of the publicly controlled system. Informal private sector activity, however, is not bound by government policies to any great extent, and private water vendors operate illegally in many developing countries.

Numerous legal arrangements have demonstrated the advantages of public–private partnerships in the provision of water supplies, and, surprisingly, the best example is in Africa. The most private of developing country water authorities is that of the Ivory Coast where SODECI, a private corporation based on the French model, operates and maintains Abidjan's water supply. Just over half of SODECI stock is controlled by a combination of the government (3.25%) and Ivorian nationals (47.6%).

SODECI pipes water directly to 91 000 purchasers and supplies far more through sales at 40 public fountains. The fountains include coin-operated taps that SODECI monitors to prevent vandalism and ensure proper and timely maintenance. Although impressive, this system has not kept pace with Abidjan's rapid growth to 2 million inhabitants (Dei 1985). In response, private water vendors have proliferated. They obtain water at public fountains, from private connections to the SODECI system and often from illegal taps into the system that circumvent payment. In response, SODECI plans to install additional fountains to capture more of this profitable segment of the water market. The competition among water vendors is leading to service improvements and a higher quality of service that would not have occurred if there had been a government monopoly.

The characteristics of the Ivory Coast's water and sanitation system differ sharply from the rest of Africa and most of the developing world. Although in common with almost every other system, the entire population is not covered, SODECI operates at a profit (including capital costs); and contrary to almost every other water system in Africa except Botswana's, SODECI has impeccable operations and maintenance records, minimal water loss and total cost recovery (Dei 1985, Golladay 1983, Bendick and Hatry 1982). As a regulated monopoly, SODECI is able to provide a reliable, high quality water system.

The other colonies where the French method was introduced switched to publicly controlled, subsidized systems when they embraced socialist approaches to development. None of these systems is functioning without government subsidies or is free of any of the problems described earlier.

Botswana

Public water supply is reasonably efficient in parts of Africa. Most notably, Botswana's parastatal Water Utitilities Corporation is in a league with the best water authorities in the developing world, including those in Tunisia and Singapore. This corporation operates with minimal political intervention and relies heavily on supervised expatriates who provide skills that are lacking locally. It has efficient, decentralized management and tariffs that are adjusted as necessary to maintain full cost recovery (Hewitt 1985, Raphaeli et al 1984).

Kenya

Another successful public–private water system is developing in Kenya. There, private marketing of water at government kiosks is ensuring

continued operation and maintenance. This system has effectively met the needs of low income households. It provides subsidized water, while at the same time creating incentives for continued pump operation.

Water vendors

In most cities in the developing world, water vendors fill a gap in supplementing the government's urban service, whether or not they are endorsed by the government. Where urban dwellers have no access to publicly provided water supplies (let alone safe supplies), private purveyors of water using trucks or smaller receptacles haul water either for distribution at central locations or to individual dwellings. In Africa, these activities have been documented in Benin, Senegal, Somalia, Kenya, Nigeria, Ivory Coast and Niger (Dei, 1985, Hewitt 1985, Roth 1985, Winter 1983). The cost of trucked water is much higher than that of piped water. Table 2 shows the cost of vended water for the African countries for which there are data. In the Kenya and Senegal samples, 90% relied on water vendors for their water supplies, and in Kenya, households spent over 30% of their cash income on water. Why wide discrepancies exist was not explored in the study; however, the results do suggest that purchasing water from private vendors is costly, but is unavoidable where natural or public alternatives do not exist.

Table 2. Consumers purchasing from water vendors*

Place	Study population	Average household size	Sources	Total volume consumed daily per capita (litres)	% of households served by vendors	Volume purchased from vendor daily per capita (litres)	Price/litre vended water (US $)	% of household monthly income
Diourbel, Senegal	100	10	Open well, piped system, vending	2	90	1	0.008	3
Ali Matan, (refugee camp), Somalia	16 000	5	River, piped system, vending	4	10	1	0.150	>30
Mandera, Kenya	17 000	6	River, irrigation canal, rainwater collection, piped system, vending	7	90	7	0.040	>30
Gankida, Nigeria	10 000	16	River, open well, rainwater collection, vending	NA	15	NA	0.020	NA
Ibi, Nigeria	5 000	6	Protected well, open well, rainwater collection, vending	8	40	5	0.040	>30
Boundiali, Ivory Coast	15 000	10	Open well, rainwater collection, piped system, vending	11	50	6	0.005	3
Guidan Rouondji, Niger	3 500	9	Open well, river, rainwater collection, vending	9	40	8	0.007	26

* Data were collected through questionnaire distribution to Peace Corps and voluntary organizations in each community.

Source: Zaroff and Okun 1984.

Table 3. Alternative models of public–private partnerships in provision of water supply in developing countries

Form of water provision	Countries	Government role	Cost
Concession system where public authority contracts with a private company for 30 years or so for construction, operation and maintenance of drinking water. Company is a regulated monopoly, and must recover capital and operating costs (Bendick and Hatry 1982; Roth 1985)	Established in Senegal, Congo, Guinea, Malagasy Republic, Togo, Ivory Coast in Africa. After independence, only Ivory Coast retained the system, which converted to *affermage* system in 1973.	In the Ivory Coast, government contracts with SODECI, for specific source, quality and level of water supply services. Government receives around 50% of revenue and has a 4% ownership in the firm.	In 1982 Ivory Coast system charged 227 CFA/m^3 (US $0.61). Prices set at a cost plus percentage profit basis.
The *affermage* system entails municipal construction of the water system and a long-term contract with a private firm to operate and maintain it. The company assumes all the risks of operation (Bendick and Hatry 1982)	Morocco* Ivory Coast (since 1973)	Government contracts for specific set of services to SODECI in Ivory Coast.	Set of rules which guide setting of price; surcharge on water fees paid to the municipality to repay construction costs.
Territorial concession for 30 years or more for water pipe network in larger cities. Company procures, purifies, distributes, meters and charges for water (Roth 1985)	Chile Guatemala	Tariffs are approved by the Ministry of Public Works and quality control supervision is vested in three public agencies (Chile); quality control provided by Ministry of Health (Guatemala).	US $30/month for 1-inch pipe, US $65 for 1½-inch pipe plus US $86/$m^3$ (Chile). US $20/$m^3$ for an initial supply and US $45/$m^3$ for any excess (Guatemala)
Contracting out for specific activities such as meter reading, computer services, and billing and collection.	Chile Peru Sri Lanka	Not available.	Not available.
Large-scale trucking of water. Private vendors obtain water from private sources, purify and package the water for sale (Roth 1985, Winter 1983)	Dominican Republic. Similar systems common in Jordan, Ecuador and El Salvador	In the Dominican Republic, government regulates the 10 firms active in water sales and inspects product weekly.	In the Dominican Republic price varies by quality of water, but all charge the maximum allowed by government.
Water cooperatives where the cooperative usually builds and always owns the pipe network and is responsible for covering capital, operations and maintenance costs without any subsidy (Roth 1985)	Santa Cruz, Bolivia (others especially in Latin America and the Middle East)	Government approves tariffs.	US $0.035/$m^3$ (1983) in Saguapac cooperative outside Santa Cruz.
Water vendors at a metered standpipe (kiosks) sells water by containers. Water is sold to a licensed vendor at a subsidized rate (Roth 1985).	Kenya	Not available.	Not available.
Coin operated meters at water standposts. Supplied and maintained by private company. Operator guards and maintains each unit. (Roth 1985).	Ivory Coast.	Private water supply implementing company under government contract (SODECI) operates system (see *affermage* system above).	US $0.02/25 litres.
Water vendors sell water door-to-door (Zaroff-Okun, 1984).	In Africa: Senegal, Somalia, Kenya, Nigeria, Ivory Coast, Benin and Niger	No government involvement or oversight.	US $0.008–0.150/litre, or from 8% to over 30% of household income.

* Morocco's current *affermage* contract now only involves supplying water to the Casablanca and Tangiers water authorities.

Source: The Urban Institute.

Other ways of involving the private sector

In addition to the ubiquitous water vendors, several ways have been found to involve the private sector in water supply services. Table 3 summarizes the kinds of experiments undertaken in the developing world, and shows the role of public authorities and the costs to customers of each delivery method. Few of these experiments have been evaluated to any great extent, although in every documented case where private firms have been brought in either to supplement public water provision or to undertake some aspect of management and operation, efficiency has increased. Experiments in Bolivia (Roth 1985), Dominican Republic (Roth 1985) and India (Golladay 1983) all showed sharp improvements in the quality of water service.

Experience in Chile and the Dominican Republic demonstrates the advantages of complementary, licensed private water distributors. Establishing multiple suppliers and setting prices has promoted competition based on service quality, reliability and speed. The result is profitable private investment and better, cheaper and more comprehensive urban water supplies (Roth 1985).

Options for public–private partnership

Some of the most promising efforts to provide more water for low income households are Kenya's water kiosks and the Ivory Coast's coin-operated water stand posts, both of which are privately operated and maintained. Another promising model, used in Chile and the Dominican Republic, is to contract out water delivery for portions of a city, sized so that they can be handled easily by more than one competing private firm. This system is particularly applicable in those African countries where the government has accepted that it cannot cover the rapidly growing urban population. Contracting out for specific activities that are most difficult for public entities to accomplish, such as meter reading and billing and collections, is also worth considering. Where such experiments have been undertaken, they have improved operations and produced solvent systems. What is not known is what happens to coverage for lower income individuals with greater reliance on private firms; however, the current cost of water to the poorest households exceeds the cost to better off familes, so there is little to be lost by experimenting in this area.

A recent study in the USA noted two reasons for involving the private sector in water supply which are of relevance to developing countries: the difficulties experienced by the public sector in keeping down operating costs of complex facilities and the shortages of qualified operators and managers which result from restrictive municipal salary levels (Lorenz 1982). Private firms are better able to attract and retain skilled personnel and competition among firms for government contracts keeps costs down. The greater complexity of technologies in the USA may increase the difficulties of the public sector, but the sparse evidence available in the developing world suggests similar improvements with the involvement of private firms.

Constraints to private sector activity

The only acceptable form of private water marketing that is possible without specific government concurrence is trucked water. Any other method requires rights of way and other approvals from government agencies, since it entails building or tapping a pipe network. Thus, the private sector has few options without public endorsement.

Government supervision also can pose difficulties if political ends are to be met. Shifts in government can modify the role and scope of private activity in the sector. Where a permanent infrastructure is put in place, there is always a risk that government will nationalize or otherwise jeopardize the investment. Similarly, a private water supplier must be free to set ecomomically sound rates and take action against all who fail to pay promptly. From the private sector's veiwpoint, the primary drawback to involvement in water supply provision is the unpredictability of government policy and actions.

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Note

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