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Public-Private Partnerships in Water and Sewerage Services: Privatization for Profit or Improvement of Service and Performance?

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TECHNIQUES, CASES, & ISSUES

PUBLIC-PRIVATE PARTNERSHIPS IN WATER AND SEWERAGE SERVICES

Privatization for Profit or Improvement of Service and Performance?

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There is no empirical proof that private enterprises manage and operate facilities more efficiently than public ones. Instead of privatization, it is better to promote viable public-private partnerships and commercialization of services. The core businesses of water and sewage works should preferably be retained by a municipality-owned enterprise. In the selection of the mode(s) of water service implementation, one must consider the nature of the services, the long-term experiences, and transaction costs. The nature of water and sanitation service activity itself requires that long-term development should be considered in decision making. The institutional framework must be such that all parties benefit from cooperation. Whichever management or contract model is selected, the ownership of the utilities should preferably remain in the hands of municipalities whose decisions on services citizens should be able to influence through local democracy. The responsibility for arranging water services lies de facto with the public sector.

International interest for privatization of public water and sanitation services has increased strongly since the mid-1990s. This article is based on the authors' recent research on privatization and public-private partnerships. *Public-private partnership* is here understood as a wide concept that includes outsourcing of noncore services and operations. The study has charted international experiences from privatization through literature reviews and direct contacts with researchers and water industry colleagues in for instance England, Scotland, Sweden, and the United States. The authors' memberships in international professional associations—particu-

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larly the American Water Works Association (AWWA), the International Water Association (IWA), and the International Water Resources Association (IWRA), and related specialist groups and task forces—have also been used. The research approach is a combination of engineering sciences, development studies, institutional economics, and futures research.

Although history does not necessarily repeat itself, surprisingly heated debates were held already in the late 1800s and early 1900s in the developed world about the roles and cooperation between the public and private sectors in water services as well as the organization of such services. This fact has been ignored almost completely in the international debate of the 1990s. The recent debate is based mainly on two concerns: (a) perceived inefficiency and inadequacy of the public sector to mobilize the required financial resources for investments, especially in developing and transition economies, and (b) claims of encouraging privatization experiences in some other technical utility services. One reason for the increased private sector involvement is that many companies, foundations, and other organizations with substantial financial reserves are considering water services as a prospective business investment with guaranteed profit and low risks. Indeed, the interest for both investor-ownership and private operation of water services is growing. This international “privatization boom” is also backed by international financiers such as the World Bank and the European Bank for Reconstruction and Development.

Although private sector involvement and the privatization boom obviously is one of the biggest policy changes in the water sector for some time, analytical discussion and scientific research on the issue seems still to remain limited. The public discussion is mainly based on intuition and prejudice, and scientific reasoning has been scarce.

The Last Natural Monopoly?

Since telecommunications, energy, and electric utilities have already been restructured and privatized in many Western countries, water and sanitation services have been called “the last monopoly.” Water utilities are unique among public utilities and have been considered perhaps the most monopolistic. Yet, economic regulation of water utilities is limited and varying. Water technologies and economies cannot be restructured along the lines of, for instance, the telecommunications and energy industries. This is because the water industry has not experienced major technological breakdowns or come close to exploiting economies of scale in management and operations as other utilities did before restructuring. Long-distance and open-access transmission is particularly problematic and costly for water (Beecher, 2000).

Privatization objectives are often coupled with the task of exposing an existing monopoly to competition. Yet simply converting a publicly owned monopoly into a privately owned one on grounds of equity, efficiency, justice, and freedom may not be desirable. Privatization should promote competition wherever possible. This can be done by (a) removing all legal and regulatory impediments to the emergence of potential private rivals and (b) facilitating arrangements that allow exclusion (e.g., control of free riding). In many instances, technical progress has facilitated competitive supply where this was not earlier possible (radio, TV, telecommunications, electricity, train operators, etc.) (Kasper & Streit, 1998). The main options for private sector participation in water services (see Figure 1) can be categorized according to how they allocate responsibility for issues such as asset ownership and capital investment between the public and private sectors. In practice, options might also be used in combination; for example, a build-operate-transfer (BOT) contract for bulk water supply might be combined with a management or lease contract for operating the distribution system.

Water supply and sanitation systems are categorized as natural monopolies due to the nature of the required investments and technical systems. It is not feasible to construct several parallel networks and facilities in the same service area. The sunk costs of the major infrastructure investments in the water supply and sanitation sector are significant and do not justify duplication of infrastructure. It is rarely possible to introduce side-by-side competition into a particular service area by uncoupling source of supply from distribution (Werkman & Westerling, 2000). Yet, based on experiences from other sectors (electricity, telecommunications, etc.), increasing

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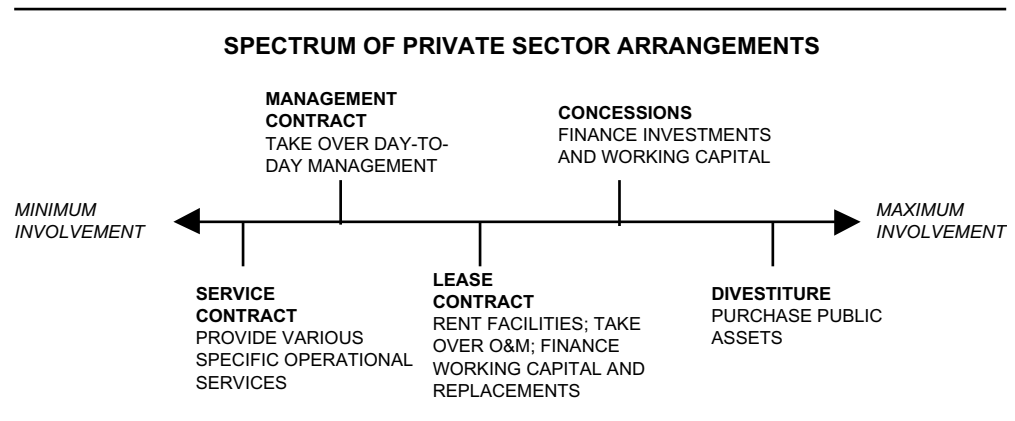


Figure 1: Main Options for Public-Private Partnerships in Water Services

SOURCE: Water and Sanitation for Health Project (1992).

NOTE: O&M = Operations and management.

demands to introduce more competition into the core operations of water utilities have been made.

Recently, the new Competition Act of England and Wales has introduced an artificial form of competition in England and Wales that allows competitive service producers access to common water and wastewater networks. This principle of common carriage aims at providing greater choice of suppliers for customers without necessitating the duplication of infrastructure. Common carriage refers to “the introduction of raw or treated water by a new entrant at an appropriate point in an existing statutory water undertaker’s system in order to supply water at other points in the system to customers of the new entrant” (Drinking Water Inspectorate [DWI], 2000).

Yet there are a number of concerns related to common carriage. These include safeguarding water quality, liability issues, emergency procedures, supply security in terms of pressure and flow rates, access charges, metering, and leakage. The DWI (2000) of England and Wales has issued extensive guidance on drinking water quality aspects related to common carriage. However, there is a serious concern that customers might experience unacceptable deterioration in the quality of their drinking water due to complicated hydraulic and other technical conditions of the water service in common carriage.

The electricity supply sector has been considered most analogous to water utilities. Finnish electricity supply was liberalized toward the end of 1990s. Competition in electricity distribution takes place according to many of the same principles as the proposed common carriage in the British water sector. Yet most Finnish electricity providers are still municipal public enterprises and not private electric companies. Through increased choice of service producers, customers have been able to lower their electricity bills. Yet in electricity supply, concern for service quality and other customer perceptions are not as significant as in water supply, mainly because the product is very different by nature. With time, the fundamental differences between water services and electricity services will be better understood.

Common carriage will be applied mainly in drinking water services. Yet in the future, water and sewerage services will have to be considered more as an integrated service. Thus, doubling of institutional arrangements should be avoided. Due to the unique history and nature of the British water industry, common carriage may become a successful competition instrument for England and Wales but may not be a feasible solution in other countries. For instance, in Finland common carriage would probably cause water quality problems for systems that use both ground and surface water.

The Higher Efficiency and Effectiveness of Privatized Utilities: Is It a Myth?

It has become a common belief that privatized water utilities have greater efficiency and effectiveness than public water utilities, which have been labeled as inefficient and ineffective. Yet, efficiency and effectiveness depend completely on the applied criteria. Neoclassical economic theory assumes that the perfectly competitive market provides the best mechanism for achieving efficiency. However, this theory fails to provide an analytical framework for the complex human interaction that affects the performance of economic organizations.

Institutions and institutional change are the underlying determinant of the long-run performance of economies (North, 1990). Neoclassical and institutional economics have a different understanding of economic performance. The standard neoclassical conditions apply to allocative efficiency and assured rational behavior but not to adaptive efficiency. Adaptive efficiency provides the incentives to encourage the development of decentralized decision-making processes that will allow the maximization of those efforts required to explore alternative ways of solving problems (North, 1990).

When transaction costs are fully considered, efficiency and economic performance are seen to play a different role in today's privatization analysis. Economic and technical (operational) efficiency is only a narrow indicator of the performance and viability of a water utility. Viability is a holistic definition that can be used to assess the performance of water utilities. Viable water systems are self-sustaining and can reliably meet all present and future requirements in a dynamic, comprehensive manner that assures the continued delivery of safe water. The key factor in viability is the capability of a system to implement the changes indicated by its own planning process (American Water Works Association [AWWA], 1995). Hukka (1998, p. 129) has presented a viability monitoring and assessment system that is a vital component of a comprehensive capacity development system. Its basic task is to produce information on the water system's financial, technical, and operational ability to meet all present and future requirements in a manner that assures the production of safe, sufficient, and affordable drinking water as well as customer confidence and satisfaction. One key tool for such a viable system is a master plan that includes a facilities plan, a management plan, and a financial plan, all of which should show how the system meets (and will continue to meet) performance requirements (AWWA, 1995).

The only relevant and objective way to assess the performance of a public organization is to measure how well it can meet set goals and objectives (R. Rees, 1984). Generally, the objectives of public water utilities are based on enhancing operating efficiency and long-term sustainability, with emphasis on full cost recovery instead of profit maximization. The quality of the service to customers, health, and environmental considerations are very important for public water utilities. Financial viability is dependent on the stability of operating conditions. This viability can be measured by a system's ability to bring in more money than it spends to provide reliable water service (AWWA, 1995).

Competition requires greater efficiency and effectiveness. Institutional regimes for water services face three kinds of efficiency problems: (a) inefficient levels of output, (b) inefficient levels of cost, and (c) inefficient levels of product quality (Brook Cowen & Cowen, 1997). It has been claimed that privatization can substantially reduce the operating costs of publicly owned and operated agencies through infusions of capital investment, improved work practices, and more efficient purchasing and other services. According to Brubaker (1998), several U.S. experiences indicate that privately operated water utilities should save costs and be more efficient than public operations.

In reality, however, there is no scientific evidence that fully privatized utilities operate more efficiently and effectively than public utilities, and performance improvements could also be achieved by good public management. Willner (cited by Lehto, 1997, pp. 23-50) has made an extensive literature review covering about 50 scientific articles. His conclusion is that public ownership is usually not less efficient than private, and in many sectors (including electricity,

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insurance, railways, and water supply), it actually performs better. The economic benefits assumed to derive from private companies taking over public services are grounded in the belief that private operators manage more efficiently, are more technically advanced, and invest capital. In practice, the main savings are achieved by cutting labor costs either by reducing the number of jobs or by lowering salaries and conditions (or both) (Martin, 1996). Yet downsizing can potentially reduce service quality and customer satisfaction.

Efficiency and effectiveness can be measured, for instance, by using performance indicators and benchmarking against agreed indicators both in the private and public sector. In their comparison of several public and private water utilities, Lobina, Hall, and Finger (1999) concluded that privatization seems to be overvalued as a factor of enhanced effectiveness and productive and allocative efficiency.

In England and Wales, customer water charges have increased twofold on average since the 1989 privatization there. During the same period, the private water undertakers' profit has increased 50% to 700% and their managers' average salary and benefits at least fivefold (Martin, 1996). The huge profits and salary increments indicate that the tariff increases have not been introduced merely to recover costs but to earn profits for the private owners. This is also corroborated by the substantial investments and expansion of the water companies into sectors and businesses other than the water industry.

Publicly owned water utilities have also been labeled as inefficient in securing required financing for investments. Yet, publicly owned water utilities can, in principle, access the same sources of finance as multinationals (local banks, international banks, multilateral institutions, state or international grants). Private finance is usually dependent on guarantees by local and central governments and ultimately on end-user charges or taxation. Privatization may also imply hidden taxation. Private ownership or private financing (shareholding) does not as such make water services any more efficient if the private sector does not bring additional professional competence to complement that of the public utility.

Only Lenient Regulation Is Necessary

Water services are typically considered a natural monopoly and therefore cannot be allowed to operate in completely unregulated markets. If there is no competition, regulation is necessary. An important question is whether privatization requires regulation or deregulation. Deregulation will pressure the water industry to change its rules of engagement as well as the roles of water utilities. According to Beecher (2000), deregulation may not currently be good for the water industry. Deregulation puts enormous faith in markets. Yet persistent and significant market failures (monopolistic tendencies, negative externalities, and inequitable outcomes) will be the inevitable consequences of an overreliance on markets for the management of drinking water services. Appropriate regulatory reform to ensure accountability would be better than deregulation. When the services have already been privatized, the public interest can best be ensured by restructuring and regulating the private sector.

In England and Wales, one of the main reasons for privatizing the regional water authorities was that the government would then not need to get involved as extensively and expensively in water affairs. The original objective was to introduce full privatization with maximum deregulation. Yet in view of both (a) the strength of this natural monopoly and (b) the importance of the social and environmental impacts of water supply and wastewater management, the key to effectiveness has been ensuring that private sector involvement is coupled with strong and competent regulation (Summerton, 1998, p. 65). Gradually, the intended deregulation in England and Wales has been replaced by extensive public regulation, which has eventually led to a very complicated and overregulated system. The new Utilities Bill of England and Wales and the increased requirements of the new common carriage practice there in both economic and public health regulation and control will complicate the regulatory framework and practices even further. Governments have performed poorly as owners and regulators of water utilities (especially in developing and transition economies) partly due to a lack of experience and partly due to

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improper incentives and corruption. Brook Cowen and Cowen (1997) have proposed that unregulated private monopolies might be a feasible alternative for developing countries. This option of complete privatization of water assets and unregulated natural monopoly would involve no price regulation, no rate-of-return regulation, and no surreptitious regulation through antitrust law (i.e., a *laissez-faire* antitrust policy). An unregulated private monopoly would have an incentive to bring as many potential buyers into the system as possible to maximize profits. It is believed that this would significantly increase the number of water connections in developing countries. Yet, there are several potential problems with unregulated privatized monopolies in water services: (a) equity and distributional objectives (partial exclusion), (b) bargaining and rent-seeking costs, (c) potential price gouging, and (d) the imperfect ability of governments to precommit to a *laissez-faire* regime (credibility) (Brook Cowen & Cowen, 1997).

J. A. Rees (1998, p. 29) has concluded that unregulated water and sanitation companies are simply not an option. There are many major regulatory tasks needed to ensure various forms of customer protection in privatized water service arrangements (p. 22). The social, developmental, and environmental importance of the water sector means that continued public regulation will be necessary. Governments cannot escape their responsibilities in the water sector.

Brubaker (1998) has proposed privatizing the regulation of water services as an alternative to central government-level or river basin-level regulation. She is convinced that resource use should be managed and also regulated at the lowest reasonable level. Restoring and applying property rights to water would partially privatize regulation, but it would not actually mean deregulation. Property rights should not replace all central regulation either. Private regulation (citizen regulation) is most likely to succeed best in systems in which financing, ownership, and operation of water services have also been privatized (Brubaker, 1998).

In conclusion, it seems inevitable that with all institutional options—public, privatized, and mixed—regulation will be required and needs to be applied. Yet regulatory control should not protect and limit market mechanisms but facilitate them. Competition and creation of a functioning market requires appropriate, sector-specific regulation and an independent, strong regulator.

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Transaction Costs May Be Significant

Transaction cost theory emphasizes transactions and management of economic contractual relations. Transaction costs include expenses resulting from two or more parties entering into business relations. They are related to such factors as planning, decision making, negotiations, contract supervision, arbitration, and arrangement. Transaction costs also include losses due to poorly prepared plans and contracts. In transaction cost theory, the company's relationships to suppliers, customers, shareholders, and staff are explicitly or implicitly bound by contracts or agreements (Williamson & Masten, 1999). Various levels of insecurity pertain depending on the conditions of business transactions. The key criteria for these levels are asset specificity, insecurity (in business transactions, due to uncertainty or inaccuracy of agreements), and a small number of contracting partners.

Uncertainty and lack of information are the central elements of transaction costs. They are incurred because people are not able to organize steady and stable conditions for their business relations based on their observations and limited information and knowledge. Such limitations are caused by incompleteness and unavailability of information as well as by difficulties in supervising and enforcing agreements and contracts. Transaction costs may be costly to measure and predict because (a) complex technical properties, timing, guarantees of private contract performance, and provisions regarding action in cases of nonperformance have to be monitored, and (b) it must be ensured that the agreed conditions are met to the satisfaction of both parties. If there is disagreement, possibly costly adjudication is required as well as contract enforcement (Kasper & Streit, 1998). Transaction costs are related not to project size but to the familiarity and stability of the policy environment. As governments gain experience and clarify policy, these costs will inevitably decrease (Klein, So, & Shin, 1996).

A contract to procure a specific service is characterized by complexity, special investments, contract period, and narrow market for alternative use.

When proponents of privatization of the water industry refer to the efficiency, effectiveness, and financial viability of privatized water utilities, they often ignore the importance of required institutional changes and related costs. According to the transaction cost approach, the asset specificity of the product or service is the main factor determining whether the service can be provided more economically and profitably by a private company than by a public organization. A contract to procure a specific service is characterized by complexity, special investments, contract period, and narrow market for alternative use. The lack of a comparative market means that it will be difficult to compare the economic efficiency of public and private provision of service (Williamson & Masten, 1999). The costs of service production are the sum of transformation (production) and transaction costs. Thus, only in the absence of transaction costs would the neoclassical paradigm yield the implied allocative results. With positive transaction costs, resource allocations are altered by property rights structures (Kasper & Streit, 1998, p. 28).

Figure 2 shows an example of the complicated and complex contract and agreement arrangements in public-private partnership in the water sector. Transaction cost implications of such complex arrangements are not always adequately considered and accounted for when efficiency is measured.

Contract agreements always tend to be incomplete. Problems of incomplete contracting are often relieved by unified ownership—by taking transactions out of markets and organizing them internally through vertical integration. Several examples and attempts to apply transaction cost economics to long-term contracts in various sectors clearly indicate the following:

1. Contracts always tend to be incomplete by nature, which may lead to hazardous contracts and inefficiency.
2. Contracting the services to a vertically integrated organization may seem to reduce transaction costs (by converting them internally), but in practice, competition does not exist.
3. Due to incompleteness and a long contract period, unforeseen developments may arise that call for a costly renegotiation or arbitration process between the contracting parties.

These characteristics apply well to long-term concession contracts in the water services sector. Institutions provide the structure for exchange that determines the cost of transacting and the cost of transformation. How well institutions solve the problems of coordination and production is determined by (a) the motivation of the players (their utility function), (b) the complexity of the environment, and (c) the ability of the players to decipher and order the environment (measurement and enforcement). According to Moody's Investor Services, public-private partnerships will remain extensively complicated and costly to set up: "Interaction among lawyers, contractors, the public sector, accountants, lending bankers, technical advisers, insurers and even rating agencies . . . rarely results in a quick and inexpensive financial closing" (Reina, 2000).

Competition for Monopolies—From Public to Private Monopolies?

Both public and private operations receive subsidies from many levels of government and from one another.

The privatization of a natural monopoly (as implemented in France, England, and Wales) does not increase competition; instead, a public monopoly is simply replaced by a private one. The French system is, in fact, heavily subsidized. Both public and private operations receive subsidies from many levels of government and from one another. The privatization of the delivery of services in France has not led to the privatization of the financing of services, which presumably was one of the intentions.

In France, private water companies generally charge higher prices than the public operators. This is perhaps mainly due to the limited nature of real competition within the French water sector. Three well-established companies hold greater than 96% of the contracts for water supply (Brubaker, 1998). Due to the strong vertical integration of the French private operators, actual competition occurs only during the tendering for the contracts of "bulk concessions." This situation comes up only at the end of the contract period—a period that may be as long as 30 years.

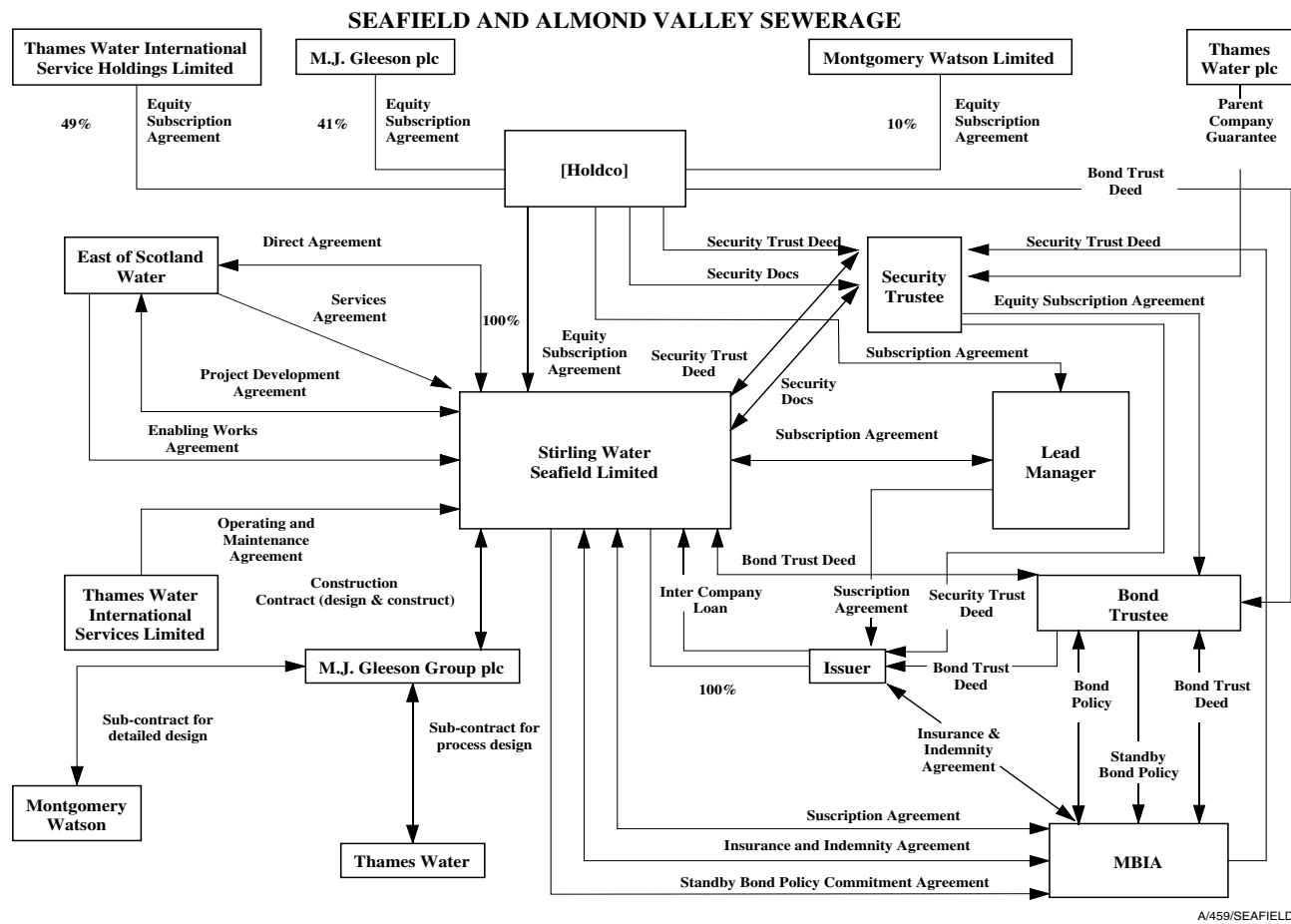


Figure 2: An Example of Complex and Costly Transactions in Privatized Water Supply Arrangements
 SOURCE: Nelson (1998), modified by authors.

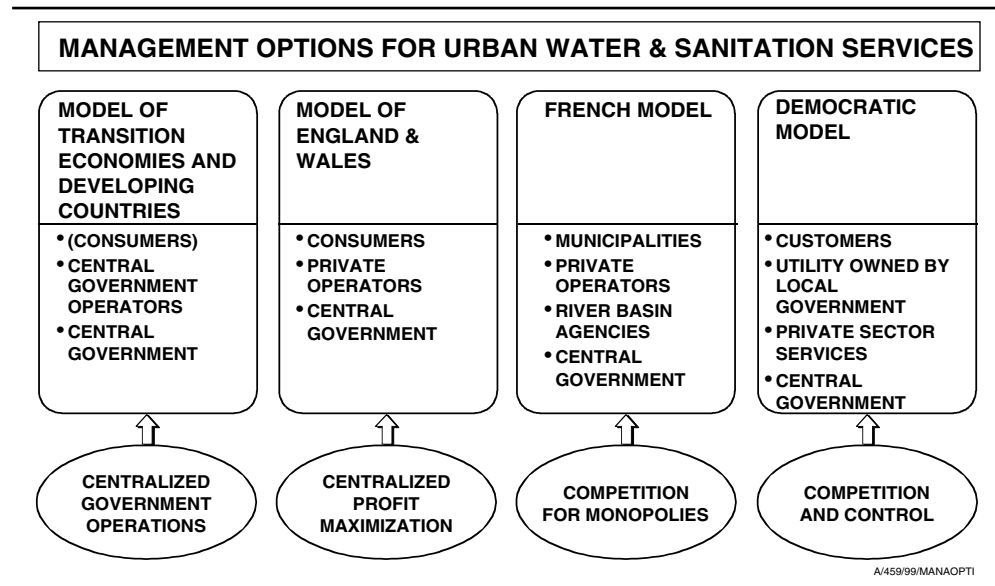


Figure 3: The Main Operational Concepts of Urban Water Supply
SOURCE: Hukka and Katko (1999).

In practice, long-term concessions tend to continue with the same companies, because other competitors may not be able to minimize risks based on inadequate information on the utility.

A public monopoly is more efficient than a private regulated one when the objectives are weighted properly (Pint, 1991). Unfortunately, there is no good solution for a technical monopoly. According to Milton Friedman, "we can only choose one of three evils: private unregulated monopoly, private monopoly regulated by the state, and public monopoly" (Williamson, 1985, p. 33). Transnational corporations (TNC) usually tend to squeeze out competitors in the domestic or export market (Martin, 1996, p. 147). The tendency of the few global private water operators to grow continuously in size and increase their vertical integration through mergers and smaller company sell offs will propel the trend toward private monopolies, with or without real competition for monopoly services. In the most attractive field of potable water supply in large cities, private monopolies with limited competition seem to be inevitable. Yet these mega-operators may not find it feasible to enter into smaller towns or into the sewerage sector; they also might not be willing to make investments due to the many uncertainties and risks involved in developing economies. Therefore, privatization does not necessarily enable countries that are short of capital to build new water systems (Anonymous, 1996).

Instead of limiting competition by enabling private operators to turn the service into a private monopoly, competition can be maintained and increased through outsourcing various noncore and support services. Under this model, the core operations of a water utility remain in public ownership and operation, but noncore operations are produced by private companies on a competitive bidding basis. Vertical competition should ensure higher efficiency than vertical integration (see Figures 3 and 4). Continuous competition for noncore services based on reasonably short contract periods is preferable to onetime competition for monopoly of entire services.

A Municipal Model Protects Public Interest Better Than an Overregulated Private Monopoly

Water supply and sanitation form a central technical service of communities. In Finland and many other European countries (Nordic countries, the Netherlands, Germany, etc.), this service is organized and often also provided by municipalities either through (a) the traditional municipal utility, (b) an autonomous utility, (c) a company owned by the municipality, or (d) a

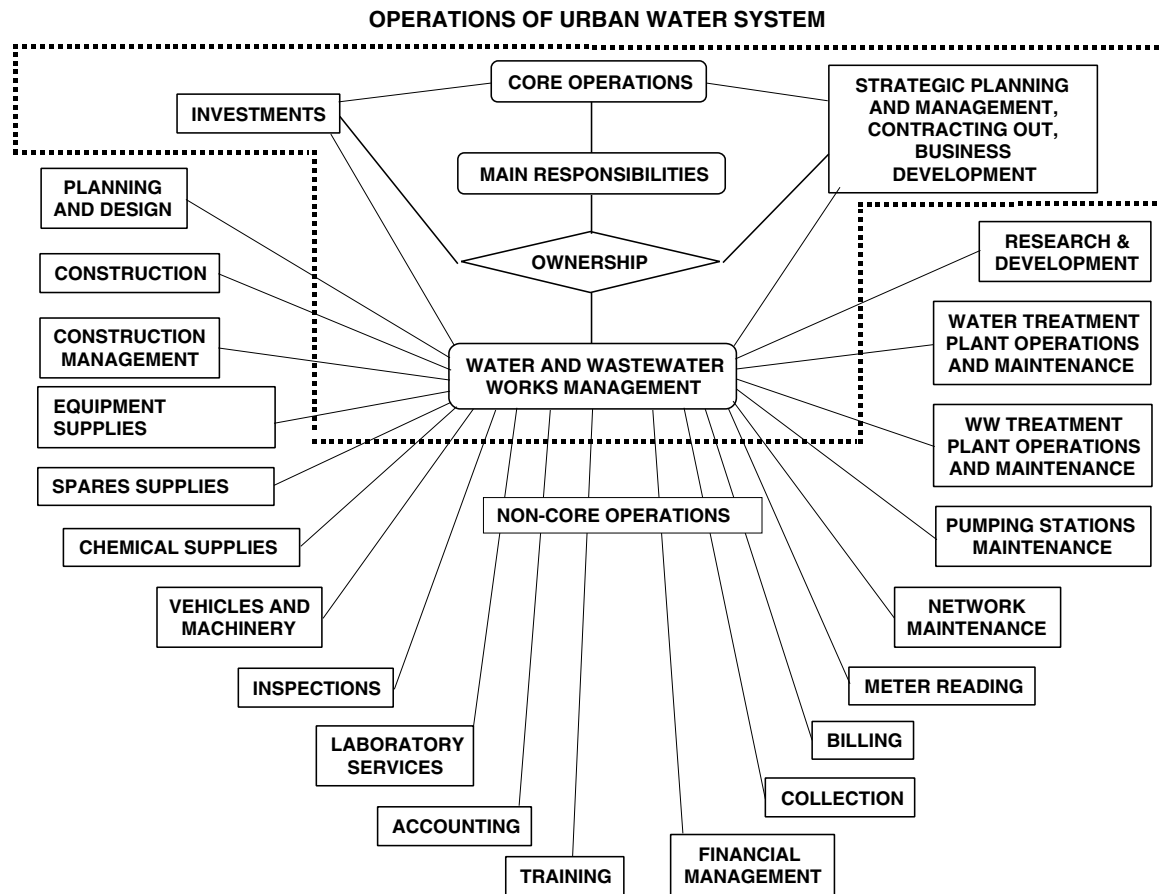


Figure 4: A Framework for Core and Noncore Operations of Water and Sewerage Utilities

SOURCE: Kraemer (1998), modified by authors.

NOTE: WW = waste water.

1. Water as a marketable private good.
2. Water as a public or collective good.
3. Water as a common property resource (differing from the public good characteristic in that it is subject to right of capture, becoming private on capture).
4. Externality characteristics of water (including the effects of water transactions on third parties).
5. Public utility characteristics of water (the fixed high costs, lower per unit costs of output characteristics of the water sector).
6. Option value of water (this relates to the foreclosure of future options, for example as a result of interbasin transfers which are often irreversible).

Figure 5: Six Fundamental Characteristics of Water Resources
 SOURCE: Gray (1983, cited by Carruthers & Morrison, 1996).

supramunicipal (intermunicipal or regional) utility. In sparsely populated areas of Finland, joint water service systems are implemented by private water cooperatives whose founding and operation are, nevertheless, in most cases, supported by municipalities.

In the selection of the mode(s) of water service implementation, one must consider the long-term experiences and the nature of the services. Ultimately, it is a conscious value judgment: What do decision makers consider most essential? The nature of water and sanitation service activity itself requires that the longer term be considered in decision making. Gray (1983, cited by Carruthers & Morrison, 1996) presented six fundamental characteristics of the water resource (see Figure 5) and stated that all of them (not just the first, “water as a marketable private good”) should be considered in the formulation of a water policy. The neoclassical approach does not consider medium- or long-term implications of water policy other than efficiency.

With regard to water and wastewater services in Finland, municipalities have been entrusted with the task of organizing and regulating the roles, liabilities, rights, tasks, and relations between themselves and private enterprises. This institutional framework (with all its decrees, provisions, and limitations) must be such that all parties benefit from the cooperation. The municipalities are in charge of the provision of water and sewerage services in accordance with legislation. The production of the services can be organized in principle within various public-private partnership models. In any case, the water and sewerage services are extensively controlled and regulated by legislation, rules, various authorities, and agreements between the water and sewerage utility and consumers—which severely limits autonomous decision making by the municipal administration.

Finnish citizens are at least theoretically able to control the exercise of power and influence it when ownership has been retained under the municipal administration. The municipal council or the board of directors should formulate the targets and monitor that targets are met. If not, the council or the board can introduce the required measures.

Most public water and sewerage utilities are managed well in Finland in terms of economy and quality of service. Because many of the public utilities are profitable, it is highly unlikely that the sale of assets could be realized. From the point of view of the citizens—the paramount owners who have paid for the assets—it would be strange if the right to profit would be transferred from them to the private sector. Although higher operational ethics could be demanded of enterprises, citizens should nevertheless not be left at the mercy of those enterprises. Ultimately, the responsibility for provision of water services lies with the public sector. The provision of water supply and sewerage has several social objectives: openness, universality, continuity, equal access, and equity. Public ownership and management of water utilities can ensure both operating efficiency and social responsibility.

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Public-Private Partnership Outperforms Privatization

In relation to public services such as water supply and sanitation, it is advisable to use the term *privatization* only in the case of full or material privatization—that is, when assets are sold to the private sector (Hukka & Katko, 1999). The term *public-private partnership* should be used when referring to arrangements such as BOT concession, leasing, management contracting, or service contracting. Although, in some cases, the concepts of formal, functional, and organizational privatization have been used in municipal administration (Rasinmäki, 1997), it is advisable to place these activities in the category of commercialization of service production.

A common perception of public-private partnerships is that a real partnership can be achieved only if the private and public sectors contribute equal financial inputs and risks. The authors' view is that public-private partnerships should be understood as a more diversified concept than just a private finance initiative.

Private sector participation in water and sanitation service production is definitely necessary and should be encouraged. However, privatization in the form of private ownership and management of water utilities may not be the overall solution. Both the private and public sector have played their own important roles in the development of water and sanitation services and will continue to do so in the future. The public sector has fundamental social and economic tasks and liabilities. A fundamental role for the public sector in safeguarding and providing for the economic and social welfare of the citizens is a condition of democratic government (Martin, 1994).

In public-private partnership, the role of the public sector includes maintaining a strong political commitment to the service as well as integrating environmental and other value considerations into the planning and decision-making process. Private companies may produce support services in their own core-competence areas—for instance, in planning and design, construction, supplies, or special services. The private sector may provide skills and management expertise to deliver public services more efficiently through introducing commercial operational principles. The private sector may also provide financing for utility investment needs. Public-private partnerships can promote efficiency and effectiveness.

Kingdom (1995) pointed out that deferred maintenance (assets stripping) is a short-term measure that can be done only because of the longevity of the water industry's assets. He suggested that to help facilitate public-private partnerships, there is a need to provide potential partners with reliable information. One way of providing information is infrastructure asset management through a comprehensive Asset Management Plan (AMP). An AMP provides a quantitative and independently auditable statement of all vital information in a rational framework that can be the basis of a public-private partnership contract. The key components of an AMP are (Kingdom, 1995) as follows:

- assessment of current condition and performance of assets,
- current operating costs,
- current financial position (including revenues, balance sheet, and cash flow), and
- required and anticipated future levels of service, and methods of measuring and monitoring performance of the partner.

The following experiences have been gained over the long-term from the development and implementation models of water supply and sanitation (Hukka & Katko, 1999):

1. Nearly all of today's Organization for Economic Cooperation and Development countries tried to establish water supply and sewerage systems run by private companies in the mid- and late 1800s. Yet municipalities acquired ownership of these facilities quite rapidly.
2. In Finland, municipalities have owned and operated the water supply and sewerage infrastructure in urban and rural centers since the 1880s. Waterworks have financed their

operations primarily through consumer fees, but sewage works have been financed through municipal taxes since the early 1970s.

3. In Finland, smaller waterworks have traditionally been consumer-owned and -managed water cooperatives. Although they are private enterprises, they aim at cost minimization instead of profit maximization, partly at the expense of service quality.
4. In France, privately managed waterworks were established in the mid-1800s. French private operators have also gradually captured markets around the world in other service sectors. These enterprises have won concessions of up to 30 years to run facilities. There is hardly any competition after the contract has been awarded, because external services needed by a utility are bought from a member of the same or an affiliated group. The competition for a new concession or lease (affermage) is not real because only the enterprise itself knows the facility well enough to be able to minimize risks. Moreover, the markets have in practice been divided to a large extent geographically between the three major companies.
5. The sale of regional water and sewage works' assets to the private sector in England and Wales in 1989 is a unique incident in the water sector. "Thatcherism" and legislation that curtailed the borrowing by earlier public water and sewage utilities lay behind that privatization drive. As a result, the English and Welsh regional governments have lost their relative importance in the administration of water services. On the other hand, the privatization of utilities has facilitated long-awaited additional investments (such as extension and rehabilitation of wastewater treatment facilities and networks).
6. The experiences from the privatization of the English and Welsh water and sewage works are hardly fit for welfare societies (in which the goal is to administer the services at the lowest possible level and to safeguard public interest, accountability, and transparency through democratic decision making).

In international discussion, public versus private service is too often seen as a black-and-white issue. Yet countries with the most comprehensive and the best operative water and sanitation services practice public-private partnerships. In a symbolic way, public-private partnership in Finnish water services can be described as a water tower (see Figure 6). Under normal conditions, the water level and filling ratio of a tower fluctuates between about 30% and 100%, and so does the share of services bought from the private sector. The stem of the tower represents the core competence of the municipality-owned utility. The tower is resting on a community of customers under the rule of a local government. Demand is satisfied by water service. Through the roof, the central government guides sector policies supported by regional administration.

In Finland, the role of the private sector as a service producer has been significant. Substantial outsourcing has been practiced. It is based on competitive bidding on support services. Appropriate public sector reforms through commercialization and public-private partnerships can provide as good results as heavier privatization programs such as the sale of assets as well as concession, lease, and management contracts. The increased efficiency that was achieved in the 1980s and 1990s in England and Wales through privatization could also have been achieved through public sector reform. In countries such as Finland in which municipalities are tantamount to the public sector as regards water and sewerage services, public sector reforms have particularly proven their strength in restructuring services production.

There are several alternatives for restructuring, starting from the basic role of the municipality as a service producer or provider:

1. Public sector (municipal department or government) as the service producer;
2. Public sector (municipality) does not produce services: (a) customer-oriented management models and (b) market-oriented management models.

A customer-oriented (user-oriented) public services management model (see Figure 7) draws its driving force from the information available in the customer market. An important part of customer information is pricing—the customers' willingness and ability to pay the full or

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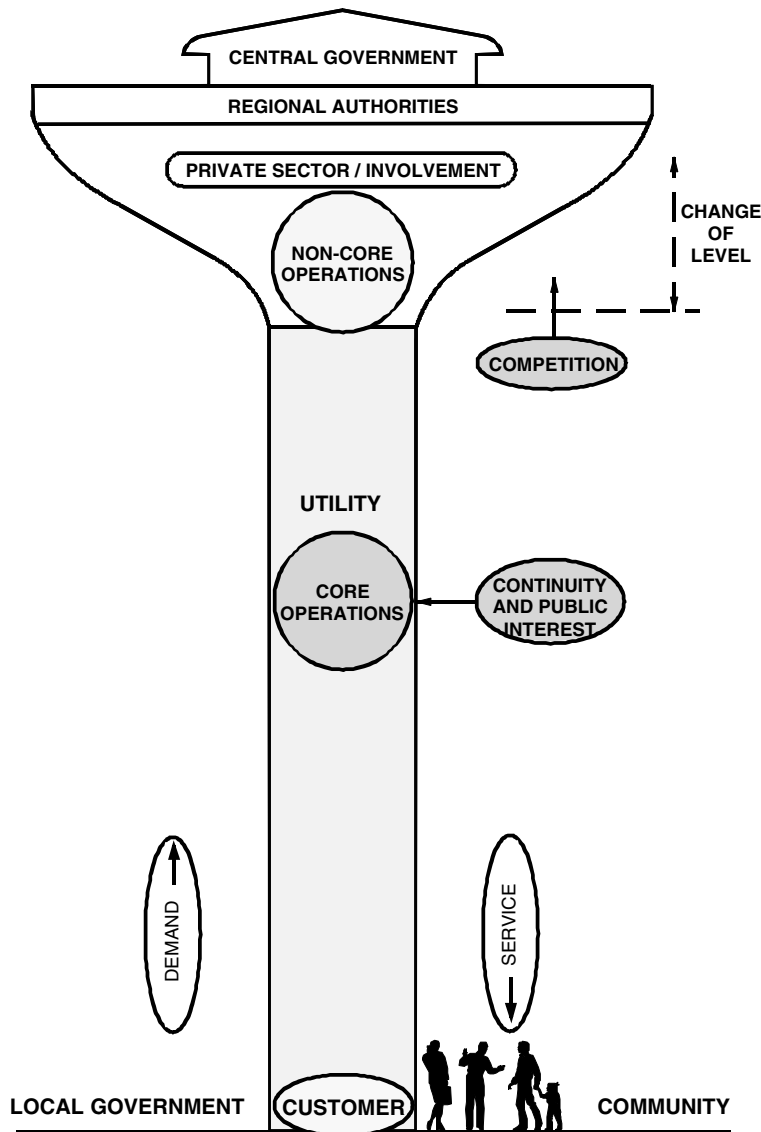
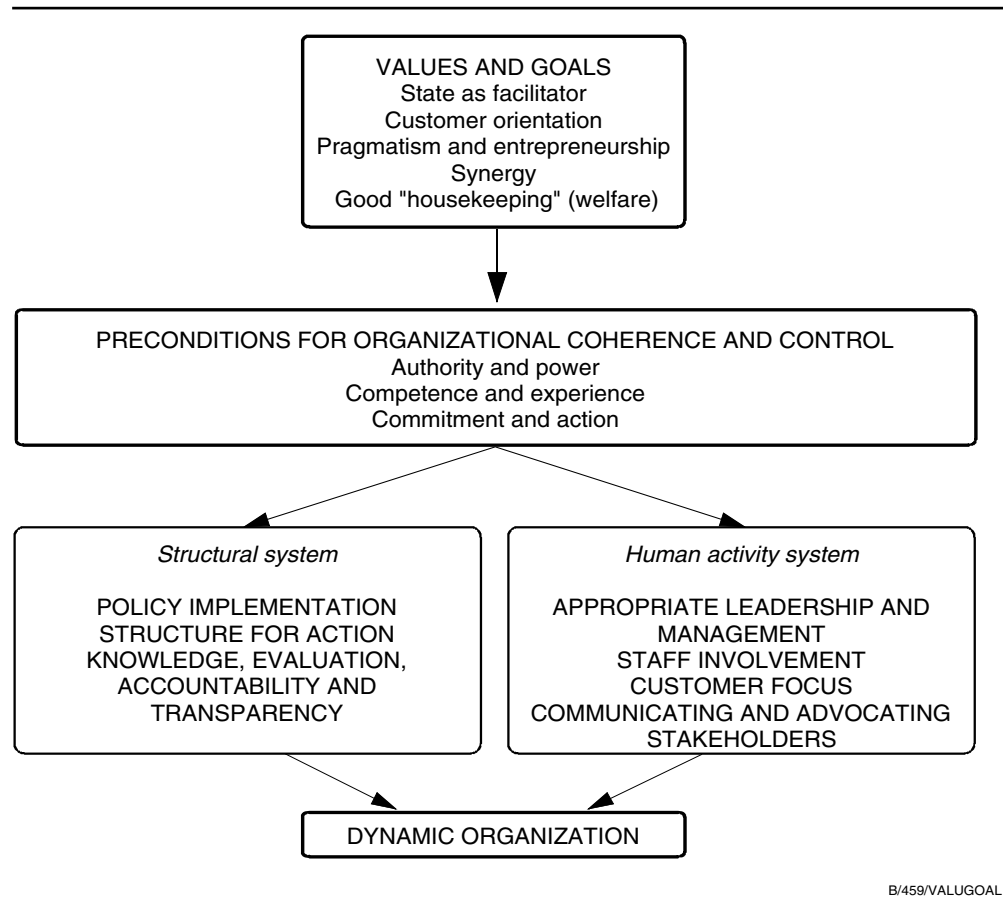


Figure 6: A Finnish Public-Private Partnership Model for Water and Sewerage Services
 SOURCE: Hukka and Katko (1999).

subsidized price of a service. A market-oriented management model depicts a situation where customers (based on their choices) and competitors (based on their actions) affect the control and management of the organization (company). In other words, the organization draws its driving force mainly from market success. Customer-oriented management models that directly link market and customer feedback to the management and control system are in many sectors only in their initial phase (Jääskeläinen, 1994).

Corporatization is another means of restructuring. In principle, corporatization is a step toward market orientation (market-oriented management). The change sends a message that the service has to consider the market situation and customer feedback (Jääskeläinen, 1994). Based on customer orientation, monitoring, and management tools as well as increased democratization and accountability, services can be produced through the public sector more efficiently than through privatization and deregulation (Whitfield, 1992, cited by Anttiroiko, 1994, p. 179). The responsive public service model introduced by Hadley and Young (1990) aims to make public

An important part of customer information is pricing—the customers’ willingness and ability to pay the full or subsidized price of a service.



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Figure 7: Key Elements of a Responsive Public Services Model

SOURCE: Hadley and Young (1990), modified by the authors.

service production both more efficient and a legitimate alternative for an ultraliberalistic private service production.

Discussion and Concluding Remarks

Private sector participation is becoming increasingly prevalent in water supply and sanitation services. But privatization in the form of private ownership and management of water utilities may not be the best solution. Public ownership is preferable in welfare societies, such as the Nordic countries where local democracy is strong through municipalities (local government). Public-private partnerships are established in several alternative modes that can provide efficient and effective water services management. The Finnish public-private partnership model has proven successful: Publicly owned municipal water utilities in Finland run the core operations, whereas the private sector provides various noncore support services. Inefficient public water utilities can be reformed through increased application of commercial principles and private sector procedures in the operation of utilities. In developing economies, the employment of private operators provides two major advantages: (a) They can train the personnel, because the lack of skilled personnel at all levels is immense, and (b) they provide the required best available technologies, best management practices, and best professional judgement.

In the selection of the mode(s) of water service implementation, one must consider the long-term experiences and the nature of the services. Ultimately, it is a conscious value judgment:

What do decision makers consider most central? Political bodies should avoid making irreversible major strategic decisions as happened in England and Wales. The nature of the water and sanitation service activity itself requires that long-term development should be considered in decision making. The key policy issue is whether the water utility is a for-profit production organization or a nonprofit service organization having social goals.

Ultimately, the responsibility for providing water services lies with the public sector. Efficient provision of these services requires novel approaches to public sector management and its relationship with society and citizens. The key consideration, however, is not whether the service is private or public but how well the utility is fulfilling its objectives. This is definitely achievable for the public organizations—with or without public-private partnerships.

Efficient provision of these services requires novel approaches to public sector management and its relationship with society and citizens.

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