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# PRIVATIZATION OF THE WATER UTILITY SECTOR IN BRAZIL

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## 1. Introduction

Privatization is paving the way for reviving Brazil's water utility sector which has experienced a long period of stagnation and underinvestment. The sector has shown a very limited capacity for meeting the growing demand for modern water supply and sewerage services, improving the quality of these services and tackling the environmental problems caused by improper treatment of waste water. Such limitations are mainly due to financial unsoundness, a progressive loss of skilled technical and managerial staff and political interference. In this context, granting concessions to private operators can be seen as a way to solve the problems currently paralyzing this sector. Yet the new partnerships between private operators and public institutions are still subject to shortcomings, doubts, fears and prejudices by all parties, involving *inter alia* the government, potential concessionaires and private and public financial institutions.

The range of possible functions assigned to federal, state and municipal governments may be better understood by referring to two extreme policy stances. One is a truly liberal approach involving little or no state intervention, with private enterprises alone undertaking management and the risk of operations. This policy assumes that the parties involved have the ability to regulate themselves so that private concessionaires can fulfill their potential roles as development agents of the sector for the nation as a whole. The other extreme is a rigid regulatory approach holding that the national interest must be protected by managed development of the sector.

Except for the extreme liberal approach, any other policy requires that state governments and, in particular, the federal government understand that it is necessary to design and establish official regulatory agencies whose role is to ensure an efficient implementation of the laws governing the sector. Without these agencies, a situation would likely arise in which a regulatory framework is purely formal and ignored in practice. Moreover, such agencies need qualified technical and managerial staff supported by adequate financial and material resources to function effectively

It is worth emphasizing at the outset that designing and implementing such effective regulatory and control systems entail major practical difficulties. However, it is possible to be optimistic

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about the development of the privatization process for water and sewerage services if regulatory and control agencies concentrate on the immediate questions of rights and contractual obligations between a conceding authority and a concessionaire, if such agencies rely on effective forms of social control by giving users of the service a voice and apply an up-to-date code of consumer rights, and if such agencies have legal support in the form principles, concepts and general directives that allow the formulation of clear rules of conduct for the relevant agents.

This article reviews and discusses the main characteristics of the water and sanitation sector in Brazil and the trend towards privatization of public services and enterprises. Section 2 describes the institutional framework of this sector. Section 3 discusses the reasons that have motivated the effort of privatization in this sector. Section 4 presents the current proposals for a new institutional framework for the sector. Section 5 briefly discusses the country's recent wave of privatization in water and sewerage services. Section 6 concludes.

## **2. Principal Characteristics of the Institutional Framework**

To better understand the current structure of the water utility sector, it is necessary to go back to the National Water and Sanitation Plan called Planasa and see how this plan was implemented. Also important is the Water and Sanitation Financing System established in 1968 under the management of the National Housing Bank (BNH), which was incorporated in 1967. It was only after the creation of these institutions that it became possible to speak of a *national* policy for water supply and sewerage services. Prior to these events, the issue was treated in an entirely decentralized fashion, reflecting the relatively precarious stage of development of the country's various regions. The institutions established in the 1960s bore the hallmark of the authoritarian regime that took power in Brazil in 1964, which was characterized by a high degree of political centralism and its decision for development plans at the national level. A central element of this strategy was the introduction of the Workers' Time of Service Guarantee Fund (FGTS) in 1967 which collected funds corresponding to 8 per cent of workers' wages. This fund was aimed at sustaining national housing and water/sanitation infrastructure policies. One of the most remarkable water supply programs in the world, Planasa was based on the following guidelines [Ministério do Planejamento e Orçamento/Sepurb (1995)]:

(i) Eliminating a shortfall in water supply and sewerage services by extending services to all urban centers and all income

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groups, and subsequently maintain the balance between supply and demand through a continuous process of planning and management.

(ii) Self-financing the sector by consolidating the mechanism of Individual State Water and Sewerage Funds (FAEs). The progressive funding of FAEs should be realized through financial transfers from the FGTS and from the federal and state government budgets.

(iii) A tariff policy to balance revenues and expenditures, while at the same time allowing for cross-subsidies between high- and low-income users within the jurisdiction of each state company.

(iv) Developing and consolidating State Water Utility Companies (CESBs) which should be managed with a business-oriented philosophy.

(v) Establishing the high-level management of the National Water and Sanitation Policy of the federal government. This included a structure with BNH at the top, initiatives taken by individual state governments to create CESBs and FAEs, the execution of civil works and development of the sector through these CESBs, an active role for municipal governments involving the granting of concessions to the CESBs, and technical aid to BNH by technical institutions retained by it.

(vi) Devising global feasibility studies at the state level rather than at municipal or system-wide level.

Still reflecting these Planasa's guidelines, water supply and sewerage services are currently organized through:

(i) the 27 CESBs which hold concessions from municipalities that cover almost 80 per cent of the population served by water supply networks;

(ii) municipal public water and sewerage services located predominantly in the states of São Paulo, Minas Gerais and Rio Grande do Sul, that are either agencies under direct municipal control, autonomous agencies, Autonomous Water and Sewerage Services (SAAEs), or municipal companies. Some 300 municipalities are provided services by SAAEs that are managed with technical and managerial assistance from the National Health Foundation of the Federal Health Ministry; and

(iii) in an even smaller number of cases, private companies holding partial or full municipal concessions that run for between 15 and 30 years.

Overall, the breakdown of municipalities by type of management indicates a strong prevalence of localities served by

CESBs: of the total 4,974 municipalities, 3,557 are served by CESBs, and 1,417 by municipal service agencies (of which 32 are operated by private concessionaires, either partly or in full). There are 816 municipalities served by CESBs whose concession contracts have expired or never existed.

During the 1970s and 1980s Planasa made large investments and significantly improved the supply of water and sewerage services from low levels of the previous decade (Tables 1 and 2) [see Tavares (1997 and 1998b)]. Despite Planasa's major achievements, the institution failed to accomplish universal service, especially in the poorest regions.

Table 3 presents service data by region in 1991 [see CEF (1997)]. The situation shown in the table, which has since changed little, illustrates (a) the poor state of sewerage services, (b) the persistence of cross-regional variations, and (c) the acute problems in the North and Northeast, two regions where sewage treatment is virtually inexistent.

The failure to accomplish fully the guidelines/targets originally set had a profoundly debilitating effect on Planasa from 1986 onwards, which culminated in its formal liquidation in 1992. The following problems with Planasa deserve special attention [Ministério do Planejamento e Orçamento/Sepurb (1995)]:

(i) the model was rigid and excessively uniform and centralized, it did not consider regional differences, local peculiarities and the financial, organizational and institutional capacities of the various spheres of government;

(ii) the 1967 Federal Constitution led to a heavy concentration of financial resources at the federal level, which limited

**Table 1**  
**Planasa Achievements**  
**(In %)**

<i>Urban Population Served</i>	<i>1970</i>	<i>1991</i>	<i>1995</i>
Water Supply	60	86	91
Sewerage (Collection Network)	22	49	66

*NB: In 1991, only 20 per cent of the urban population had access to sewage treatment plants.*

**Table 2**  
**Investment in Water and Sewerage (R\$ Billion), FGTS and**  
**Local Contributions**

<i>Period</i>	<i>Water</i>	<i>Sewerage</i>	<i>Total</i>
1970-89 (Planasa)	7.4	3.9	11.3
1990-94 (Pronurb)	2.4	1.0	3.4
1995-98 (Pró-Saneamento)	0.8	0.6	1.4
<b>Total 1970-98</b>	<b>10.6</b>	<b>5.5</b>	<b>16.1</b>

**Table 3**  
**Supply of Service by Regions in 1991**  
**(In %)**

	<i>North</i>	<i>Northeast</i>	<i>Center-West</i>	<i>Southeast</i>	<i>South</i>	<i>Total</i>
Water	67	68	80	93	90	86
Sewerage (Collection)	2	13	33	70	18	49

the ability of local authorities and state governments to contribute to the capitalization of the FAEs;

(iii) local governments were unable to exercise their powers as conceding authorities;

(iv) those municipal authorities that did not agree with the Planasa policies were excluded from any funding and forced to finance investments from their own resources, which were seldom sufficient;

(v) the financial difficulties facing state governments and their companies prevented them from obtaining additional funding, which led to the refinancing of their programs and an increase in their debts;

(vi) anti-inflationary policies and the severe erosion of wages they entailed worked against the full implementation of realistic tariffs, the most important factor for sustaining the plan;

(vii) rural-urban migration grew considerably during the period in which Planasa was in effect, causing rapid and disorderly growth at the outskirts of medium and large cities and making it increasingly difficult and expensive to provide water supply and sewerage services in such areas;

(viii) the CESBs were plagued by a series of problems, including soaring debts, unrealistic tariffs, an inability to develop high standards of performance, low productivity, and high costs due to political interference; and

(ix) the level of technologies adopted was inconsistent with the country's needs and possibilities, leading to overpriced projects and installations and consequently a deterioration in the financial condition of the system.

Since 1986 many faltered initiatives have been undertaken to reorganize the water utility sector. Perhaps the most important was the federal Draft Law PLC 199 which, after five years of nationwide debate, planned to introduce directives for formulating and implementing national water supply and sanitation policies. After receiving congressional approval, the law was vetoed by the administration that took office in January 1995. It also dismantled and replaced the sector's previous administrative structure by the Department of Water and Sanitation of the Urban

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Policy Secretariat (DS/Sepurb) under the Planning and Budget Ministry (PBM).<sup>1</sup> For the next four years, this ministry remained in charge of the national water and sanitation policy in conjunction with the federal savings bank, Caixa Econômica Federal (CEF), which became responsible for managing federal funds allocated to this sector after BNH was closed down.

From its inception the DS/Sepurb has published a series of documents analyzing, discussing and projecting scenarios with respect to (a) the problems faced by the sector, (b) the planning and implementation of programs for public sector funding, and (c) the institutional development of the sector's operating bodies.<sup>2</sup> An examination of these documents reveals a major concern over the problem of finding a new institutional model for the sector, which has yet to be settled. Two main factors account for this. One is the administrative disarray of the CESBs as they attempt to meet official credit regulations and service prior loans. They lack adequate management and have inadequate financing. Moreover, the prospect of privatization and public-private partnerships has inhibited the formulation of an institutional model based exclusively on public initiatives. This has led to some confusion over the question of who has the mandate to provide these services and, consequently, the right to act as a conceding authority. This debate has not ended nor has it produced a clear resolution regarding the future of the CESBs. These two factors have contributed to creating a highly uncertain and institutionally unstable environment in the sector.

Nonetheless, there have been positive policy developments. These are:

(i) The Senate Draft Law PLS 266/96, followed by the Substitute Amendment by the draft's author, which establishes general directives for public water and sewerage services, as well as for the exercise of powers by the conceding authority. The draft is currently under discussion by the National Congress, and aims to establish guidelines for the supply of services, particularly where these are subject to concessions or licenses.

(ii) The introduction of the Pró-Saneamento program whose funding comes from the FGTS, though this is of limited use due

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1 The DS/Sepurb/PBM structure was replaced in January 1999 by the Housing, Water/Sanitation and Urban Development Secretariat, which comes directly under the Presidency.

2 Publications (available only in Portuguese) of the DS/Sepurb included in the "Modernization of the Water and Sanitation Sector Series" - Planning and Budget Ministry/Urban Policy Secretariat/Institute of Applied Economic Research (Ipea), 1995-98 - include: *Foundations and a Proposal for an Institutional Order* (334 pp.); *A New Financing Model for the Water and Sanitation Sector* (204 pp.); *Promoting Institutional Flexibility in Water and Sanitation Service Provision* (188 pp.); *Availability, Demand and Requirements of Water and Sanitation Services* (220 pp.); *A Proposal for Regulating the Provision of Water and Sanitation Services* (168 pp.); *Regulating the Provision of Water and Sanitation Services* (278 pp.); *An Analysis of the Water and Sanitation Sector: An Economic and Financial Study* (251 pp.); *Contingent Analysis in Water Supply Projects* (122 pp.); *Water and Sanitation: Modernization and Partnership with the Private Sector* (40 pp.); and *Instruments For Regulation and Control of Water and Sanitation Service Provision* (104 pp.).

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to the inability of public institutions to use such funds [Ministério do Planejamento e Orçamento/Sepurb, Ministério da Fazenda/CEF (1995)].

(iii) The introduction of various programs to complement the Pró-Saneamento program, which have specific purposes. For example, the Social Action on Water and Sanitation Program (PASS) aims to provide water, sewerage and garbage collection services to the deprived populations of large cities and small and medium-sized municipalities. Other programs include the National Water Conservation Program, the Water Quality and Water Pollution Control Project (PQA) and the Social Emergency and Sanitation Project job Creation Program (Prosege). It is also worth noting that the Water and Sanitation Sector Modernization Program (PMSS), using funds from the World Bank, aims at modernizing the sector by promoting technical, financial and administrative efficiency among service providers.<sup>3</sup>

(iv) Financial aid to state governments with a view to creating state boards and selecting projects that qualify for funding from the above programs, as well as to support state authorities to regulate and control the supply of water and sewerage services. This measure was driven by the prospect of privatization, though for the past 25 years since their creation the CESBs have never been supervised or directed by any kind of regulatory system.

The broad legal instruments that regulate the supply of these services in Brazil are listed in Appendix. It is clear that there are overlapping mandates assigned to different government levels. The law implementing Article 175 of the Federal Constitution has not yet been proposed, except with regard to the legal regime for public service concessions and licenses, which is contained in Federal Law 8,987 of February 13, 1995, and applies to the water utility sector as well as to all other public services. The aforementioned PLS 266 is a draft federal law intended to regulate various aspects of the supply of water and sewerage services, particularly the wages framework for public service concessions and licenses, and the designation of the authorities which have the power to award concessions in the sector. It provides for cases in which this role is exercised exclusively by municipal governments, cases in which this role is exercised exclusively by state governments, and cases in which power is shared. The project has been under study in the National Congress since 1996, and has been subject to heated debate with regard to the definition of the conceding authority, particularly for metropolitan regions and other urban areas.

Since the adoption of the Federal Constitution in 1988, the management of water resources in Brazil has been given increas-

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3 *Gazeta Mercantil/Panorama Setorial*, "Análise Setorial - Saneamento Básico - Vol. I".

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ing attention, leading to the approval of various laws at state level, as well as the Federal Law 9,433/97. This law introduced the National Water Resources Policy and created the National Water Resources Management System, thereby implementing Article 21, Insertion XIX of the Federal Constitution, which assigns responsibility to the federal government for establishing the National Water Resources Management System, as well as defining criteria for conceding rights of use.<sup>4</sup>

Overall, the prospect for private sector management of water utilities is clearly favorable, given the difficulties faced by the public sector in meeting its commitments in this area. Although there are still hurdles to be overcome, such as the lack of a well-defined privatization policy for the sector and uncertainty over the conceding authority, these are only temporary obstacles. It is reasonable to assume that the full development of private service concessions is inevitable. Thus the regulations for the use, exploitation, protection and control of water resources included in the recently announced legislation are an important step in that direction.<sup>5</sup> The following section provides more detail on the reasons for greater participation of private firms in the supply of water and sewerage services.

### **3. Reasons for Privatization**

While the public sector made a major effort to improve the supply of water and sewerage services over the last 30 years, it has accumulated a long list of problems that may be described as follows:

(i) Priority was given to producing water to the detriment of optimizing its distribution. This resulted from a historical perspective that favored the construction of new plants as a way

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4 Federal Law 9,433 of January 8, 1997. Within this law, the following points are of note:

a) Grounds of the National Water Resources Policy: (i) water is a limited resource of economic value; (ii) in cases of water shortage, priority is given to human consumption; and (iii) management of water resources should always aim at ensuring multiple use of water.

b) planning: a decentralized planning system, that involves the preparation, approval and implementation of plans drafted at state and regional level (river basin level), as well as the National Water Resources Plan, via a complex decision system involving a large number of agents, regardless of whether their interests are direct or indirect.

c) Concession of rights of use: the concession of rights of use of water resources is a central instrument in the system for their quantitative and qualitative control, as well as a way of ensuring access rights in an effective way, according to the priorities established in the Water Resource Plans. Concessions will be granted by the bodies defined by the constitution as having control over water, namely the federal or state governments.

d) Charges for use: where use of water resources is subject to concession, the concessionaire will have to pay for such use, in order to secure the recognition of the value of water as an economic good, to indicate its real value to the user, to promote the rational use of water, and in order to obtain financial resources to fund the programs and projects established in the water resource plans.

5 The introduction of charges for water use, also recently introduced, should not affect the financial equilibrium of service providers, since the resulting costs will be passed on to the end-users.

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of providing adequate services, giving preference to increased production rather than reducing losses and rationalizing consumption.

(ii) Insufficient commercial initiative, principally due to the lack of suitable registers of users and installations, poor consumption metering, inadequate tariff policies and structures, and a lack of effective regulations regarding supply disconnection of defaulting customers. All of the above led to effective loss of billings and revenue.

(iii) Inadequate service to users, with delays or failures to respond to requests for service, and difficulties in communication, especially with regard to explanations of tariff policy.

(iv) Overstaffing due to political interference.

(v) Delays in responding to opportunities for technical and administrative modernization, which led to large operating costs.

(vi) Lack of administrative continuity, associated with unprofessional management.

(vii) Low provision for sewage collection and treatment, causing public health problems and pollution of water resources.

The end result of these many shortcomings in public management may be empirically illustrated in different ways, for instance, by the large aforementioned differences in regional service (Table 3), or by the almost complete absence of services to poor households: 92 per cent of the households with monthly income below three minimum wages (R\$ 390.00) lack access to treated water, and sewerage is unavailable for 94 per cent of them [see Tavares (1998a)]. Further evidence on the inefficacy and inefficiency of public provision as of 1995 is provided in Tables 4 and 5. Table 4 shows average performance indicators compiled by the PMSS for all CESBs and for 21 of the 42 largest municipal services [CEF (1997)]. Table 5 presents a number of similar indicators individually for the state companies, which were also compiled by PMSS [CEF (1997)].

Data available for 1996 show a reasonable improvement in the performance of the CESBs. This improvement was a result of the adjustment programs carried out by the companies themselves, as they reduced payroll costs and increased revenues through a substantial tariff increase. In 1996, the average tariff (water and sewerage) reached R\$ 0.86/m<sup>3</sup>, a level on a par with that of countries that offer a far higher level of service quality, and thus places Brazilian tariffs among the highest in the world. A number of these companies also launched a series of initiatives for institutional development with a view to gaining access to FGTS financing, which depends on an objective demonstration

**Table 4**  
**Performance Indicators for State Companies and Municipal Services - 1995**

<i>Performance Indicators</i>	<i>State Companies</i>	<i>Municipal Services</i>
Annual Billings (R\$ Billion)	5.4	n.a.
Annual Revenues (R\$ Billion)	4.6	n.a.
Proportion of Unaccounted-for Water (%)*	45	n.a.
Average Tariff (Water and Sewerage) (R\$/m <sup>3</sup> )	0.63	n.a.
Average Tariff Required to Cover Costs (R\$/m <sup>3</sup> )	0.79	n.a.
Average Employment/1,000 Water Connections	5.12	3
Revenues per Water Connection (R\$/Year)	282.00	n.a.
Ratio of Payroll Costs to Total Expenditure (%)	60	n.a.
% Companies With Payroll Costs > 65% of Global Costs	89	11
Average Annual Cost per Employee (R\$/Year)	20,700	11,800
Number of Water Connections (Million)	18.1	n.a.
Number of Sewerage Connections (Million)	8.3	n.a.
Companies with Cost of Service Exceeding Revenues (%)	74	41

\* Refers to the difference between the volume of water produced and that that reaches consumers.  
n.a.: data not available.

**Table 5**  
**Economic, Financial and Operating Data for the Water Utility Sector, 1995**

<i>State</i>	<i>Companies</i>	<i>Popula- tion Served Water (%)</i>	<i>Popula- tion Served Sewerage (%)</i>	<i>Unac- counted- for Water (%)</i>	<i>Revenue Loss Rates Water (%)</i>	<i>Indivi- dual Metering Rates Water (%)</i>	<i>Operating Costs / Water + Sewerage Convec- tions (US\$ '000)</i>	<i>Water + Sewerage Convec- tions/ No. of Em- ployees</i>	<i>Bill Payment Evasion Rate (%)</i>	<i>Base Year</i>
PI	Agespisa	88	03	46	48	70	0.08	178	20	1994
MA	Caema	73	18	51	53	27	0.14	130	29	1995
RO	Caerd	47	01	54	62	34	0.22	100	17	1995
RN	Caern	93	12	48	38	49	0.14	211	14	1995
BR	Caesb	93	78	28	25	74	0.35	167	5	1995
CE	Cagece	72	16	42	41	53	0.12	356	10	1995
PB	Cagepa	86	20	49	45	62	0.11	241	19	1995
AL	Casal	72	15	64	40	82	0.18	178	14	1995
SC	Casan	87	08	35	35	80	0.18	251	7	1995
RJ	Cedae	80	45	51	51	28	0.33	186	22	1995
ES	Cesan	95	11	37	28	66	0.21	240	9	1995
PE	Compesa	82	17	39	48	47	0.13	255	17	1995
MG	Copasa	94	39	30	27	88	0.10	254	4	1995
RS	Corsan	97	09	50	46	63	0.16	224	12	1995
SE	Deso	69	10	45	43	77	0.16	217	11	1995
SP	Sabesp	95	67	36	30	100	0.15	340	8	1995
Campinas	Sanasa	95	82	29	24	99	0.23	182	5	1995
GO	Saneago	83	35	38	35	92	0.17	182	8	1995
MT	Sanemat	88	12	62	52	72	0.09	141	19	1994
PR	Sanepar	99	29	38	28	100	0.12	391	7	1995
MS	Sanesul	83	09	45	46	79	0.14	301	13	1995
Median		87	15	45	41	72	0.15	217	12	
Mean		84	25	44	40	69	0.17	225	13	

by such companies that they have met previously agreed performance targets.

The DS/Sepurb has estimated that investments of some R\$ 42 billion will be required over the next 15 years in order to provide water and sewerage services to the entire population. This figure includes both the cost of meeting current shortfalls (R\$ 27.6 billion) and future demand (R\$ 14.4 billion), and corresponds to an average annual investment of R\$ 2.8 billion [see Tavares (1997)]. The breakdown of investment requirements by region is as follows: North, 11 per cent; Northeast, 33 per cent; Southeast, 35 per cent; South, 12 per cent; and Center-West, 9 per cent [Ministério do Planejamento e Orçamento/Sepurb (1995)]. The FGTS, which has been the main source of sector funding in 1970-96 during which it provided an average of R\$ 700 million per year, will hardly be able to go much beyond that. Likewise, the estimated annual contribution from the General Federal Budget will probably remain about R\$ 300 million. This implies a need for additional funds of about R\$ 1.7 billion per year [CEF (1997)].

These funds will have to be raised by attracting private investors. Public institutions have experienced difficulties in obtaining access to the necessary funding, and in the planning and management that would allow them to submit eligible projects.<sup>6</sup> Tables 6 and 7 present data that confirm these points [see Tavares (1998a)].

The preceding analysis indicates the magnitude of the obstacles that must be overcome in order to eliminate shortfalls in the supply of water and sanitation services. The outlook is highly unfavorable, given a rather generalized state of technical

**Table 6**  
**Performance of Water and Sanitation Programs - 1995-98 (to April)**  
**(In R\$ 1,000)**

Year	Pró-Saneamento			PASS		
	Allocated Amount	Contracted Amount	Effective Expenditure	Allocated Amount	Contracted Amount	Effective Expenditure
1995	1,494,000	277,000	170,712	0	0	0
1996	1,005,400	809,864	127,088	228,365	228,365	64,184
1997	1,492,187	573,141	490,693	390,554	390,554	155,084
1998	958,000	164,273	157,609	400,000*	0	152,461
<b>Total</b>	<b>4,949,587</b>	<b>1,824,278</b>	<b>946,102</b>	<b>1,108,919</b>	<b>618,919</b>	<b>371,729</b>

\*Estimate.

NB 1: The upper limit for expenditure established by the National Monetary Council for the 1998-99 period, for housing and water/sanitation operations with FGTS funding, is R\$ 1.6 billion: Resolutions 2,461 and 2,496 of the Central Bank.

NB 2: The figures include various loans for drainage projects.

6 Over the Planasa period, the water utility companies accumulated significant debts with the federal government, in a way that paralleled other sectors, causing state governments to accumulate large debts with the federal government. In 1993, Federal Law 8,727 allowed state governments to roll over these debts, the total amount of which currently stands at R\$ 15.5 billion.

**Table 7**  
**Data on Payment Capacity by State and Municipal Governments, Water Utility Companies and Municipal Water Utility Services – 1996-97**

<i>Borrower</i>	<i>1996</i>			<i>1997</i>		
	<i>Number of Applications</i>	<i>Applications with Scope for Loan Funding</i>	<i>%</i>	<i>Number of Applications</i>	<i>Applications with Scope for Loan Funding</i>	<i>%</i>
States	15	3	20	18	6	33
Municipalities	1,177	647	55	1,676	587	35
State Companies	19	12	67	20	11	55
Municipal Services	0	0	–	41	33	75

or administrative inadequacy, the obsolescence of systems, the demand for new codes of consumer rights and the pressure from authorities responsible for environmental, water resource and public health care problems. It is against this backdrop that the government's proposals for rebalancing the roles of private and public sectors in the supply of water and sewerage services must be analyzed.

## **4. Proposals for an Institutional Model**

As mentioned in Section 2, the federal government has not yet established a clear policy to tackle the problems that have hindered the development of the water and sanitation sector.<sup>7</sup> Nevertheless, the idea of greater private sector participation is receiving increased support from politicians and public sector administrators, though opinions are not unanimous.<sup>8</sup> Among state companies and municipal services, cautious interest in this model has been observed, even if there is still some lack of information on the issue. In the absence of a well-defined national policy, it is up to a few of the more dynamic state and municipal

- 7 A policy oriented towards attracting the participation of the private sector in the national water and sanitation sector should consider the following basic questions:
- (a) Political/institutional and legal aspects: (i) institutional arrangements for the various existing situations; (ii) ownership of services within the range of possible institutional arrangements; (iii) roles for each of the institutional agents involved, with particular regard to cases of low feasibility of private sector participation; (iv) regulatory and control models; (v) quality assurance and consumer protection; (vi) preservation and development of national technology resources; (vii) the role of foreign companies; (viii) development of conceding authorities; (ix) political/institutional stability of concession contracts; (x) specific procedures for tenders and contracts.
  - (b) Market-related aspects: (i) surveying attractive opportunities for the private sector; and (ii) determination of the required funding in the various cases.
  - (c) Technical aspects: (i) criteria and parameters for evaluating the physical and operational characteristics of systems; (ii) criteria and parameters for evaluating management of services.
  - (d) Economic and financial aspects: (i) tariff policies; (ii) criteria and parameters for evaluating the financial and economic characteristics of concession projects; (iii) public funding available to the private sector; (iv) models for raising private capital; (v) forms of guarantee and counter-guarantee; (vi) modelling project finance operations for the sector; (vii) financial and economic balance of concession contracts.
- 8 Indeed, representative institutions such as the Brazilian Association of Sanitary and Environmental Engineering (Abes) and the National Water Works Association (Assemae) have made public their opposition to privatization.

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authorities to assume the burden of pioneering the practice of privatization in this sector.

At the federal level, the task of the Housing, Water/Sanitation and Urban Development Secretariat (DS/Sepurb) is to propose the national water and sanitation policy, while the task of the CEF is to act as financing and operational agent. Similarly, the Brazilian Development Bank (BNDES) serves to fund the private sector and manage the National Privatization Program (PND). The DS/Sepurb supported several state governments in devising regulatory and control structures at the state level. The CEF established a series of new operating directives in the field of privatization in 1997. These include: (i) the creation of the Special Water Works Concession Bureau (Eesan); (ii) the search for domestic alternatives to finance the water utility companies; and (iii) raising funds from multilateral agencies to finance (a) studies to design a new regulatory structure for the sector, (b) the implementation of this new structure, and (c) the activities of the concessionaires. Also with regard to the privatization in the sector, the Supervisory Council of the FGTS approved a resolution at the end of 1997 that permitted the use of 10 per cent of the financial resources allocated to the Pró-Saneamento program (some R\$ 140 million in 1998) for the funding of private concessionaires.

Following a decision of the National Privatization Council (CND), the BNDES commissioned in 1997 a study, whose results have not yet been officially released, to model the privatization of the water and sanitation sector with a view to establishing policies, standards and criteria that would guide it in its role as manager of the PND. The BNDES proposes to provide partial financing for concession projects in the same way as it is already doing in other sectors.

The previously mentioned Draft Law PLS 266/96 establishes directives regarding the ownership of water utilities and the form of action of conceding authorities. It also defines the regulatory rights of federal, state and municipal governments regarding such services. This is a fundamental issue that must precede any broader privatization program in this field.

By the end of 1997 the CEF and the BNDES had signed a agreement on collaboration to develop the privatization program for the sector, the most important feature of which was the Financial Aid Program for Public/Private Partnerships in Water Supply and Sewerage Service Provision (Propar). The objectives of Propar are: (a) to induce the private sector to undertake water and sewerage services; (b) to strengthen the institutional power of conceding authorities by taking the necessary steps to develop efficient structures for the regulation, supervision and quality control of service; (c) to stimulate joint programs that bring together municipalities within the same river basin with the aim

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of developing co-operation and joint exploitation of the basin resources to benefit all parties involved; and (d) to provide and support measures to ensure the sustainable improvement of service quality.

The program offers financial facilities for hiring consultants to help prepare projects. These projects are intended to provide the basis for a full-scale planning process which, upon receipt of authorization by the relevant conceding authority, will lead to a private sector concession (either partial or full) or the establishment of a company under joint private-public ownership.<sup>9</sup> The access to such funds will not face the same constraints that have impeded CESBs from borrowing from public institutions, since the future concessionaire company will be responsible for paying back these loans. A total of R\$ 30 million has been allocated to this program based on the equal contributions from the CEF and the BNDES. It is expected that a further R\$ 30 million from the World Bank will be allocated to it.<sup>10</sup>

In 1998, the CEF introduced its Financing Program for Private Water and Sanitation Service Concessionaires (FCP/SAN) and its Investment Program for Private Water Utility Concessionaires [see Tavares (1998a)]. The objective of FCP/SAN is to create opportunities for the funding of works and services to be implemented by private water and sewerage service concessionaires and to give priority to concessions that have been studied and modeled in the Propar program. The FCP/SAN-BNDES Automático program will use funding from the BNDES, while the FCP/SAN-FGTS program will use funding from the FGTS. Table 8 provides details of the conditions of such funding.

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- 9 CEF has approved regulations for the preparation of projects in the context of the Propar, both for municipal services and for state companies [see CEF/BNDES (1998)]. Such regulations include: (a) guidelines for designing regulatory systems for public/private partnerships; (b) directives for Propar Project tendering; (c) a standard document for taking bids in tenders for hiring consulting firms; (d) a standard contract for the hiring of consulting firms; (e) guidelines for the preparation of the Propar Project; (f) adequate service provision specifications and standards; (g) directives for tendering of concessions; (h) a standard document for draft laws regarding the authorization of a concession by the relevant conceding authority; (i) a standard document for taking bids in concession tenders; (j) a standard document for concession contracts; (k) specific conditions of concessions; (l) definitions and rules regarding the cost of operating services, cost of capital and the indemnity value of the investment; and (m) guidelines for the preparation of the Propar Project in the case of concessions that are granted to water utility companies resulting from the privatization of the state water utility companies. A Propar privatization project is composed of the following reports: [1] the water and sewerage systems technical appraisal; [2] the water utility service management appraisal; [3] the basic design parameters for the water and sewerage systems; [4] the proposed water and sewerage systems; [5] the proposed management and operation systems; [6] the economic and financial planning of the project and determination of tariff structure; [7] the proposed regulatory system for the concession; and [8] the documents needed for the institutional change-over.
- 10 The funding conditions of Propar are as follows:
1. Interest rate – 3 per cent per year, payable monthly during the grace and amortization periods;
  2. Financing cost – long-term interest rate (TJLP);
  3. Grace period – release period plus up to two years;
  4. Grace and amortization period – a maximum of 36 months;
  5. Guarantees – securing on revenues – from the States and Municipalities Participation Funds and the value added tax (ICMS) –, as well as receivables from water and sewerage services;
  6. Operating Agent Management Fee – 3 per cent of the loan amount; and
  7. There is no need for a counterpart.
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**Table 8**  
**Financing Conditions of the FCP/SAN**

<i>Condition</i>	<i>BNDES Automático</i>	<i>FGTS</i>
Maximum Loan Size (R\$ Million)	7	-
Grace Period (Months)	Up to 24	Implementation Period + Two Months
Return Period (Months)	Up to 144	Up to 144
Minimum Amount of Counterparts (%)	30	25
Interest Rate	Variable*	6.5-8% per year + TR**
Financing Cost	Long Term Interest Rate	-
Qualifying Projects	(1)	(2)

\*According to project analysis and payment capacity of borrower.

\*\*Reference Rate.

(1) In accordance with the BNDES requirements.

(2) Implementation, expansion and optimization/renovation of systems, water distribution/sewerage network expansion and operation improvement.

The objective of the Investment Program for Private Water Utility Concessionaires is to create financing alternatives that use capital market instruments (domestic and/or international) for raising funds for the sector instead of loans by public financial institutions. The CEF will help private concessionaires and companies under mixed ownership to structure these financial operations, playing the role of a service provider and/or of an investor. As service provider, the CEF wants to participate in securitization of receivables, initial public offers (IPOs) and the analysis of the sector's financial assets in partnership with other institutions. In this way it hopes to attract other investors (e.g. institutional investors) that may be attracted to participating by the fact that CEF provides a "seal of quality" for the operation. As an investor, the CEF may acquire securities resulting from such operations, either for its own portfolio or for the funds it manages.<sup>11</sup>

## **5. Recent Privatization Processes**

In contrast with the experience of most other countries, the privatization of public water and sewerage services in Brazil has not followed a normal sequence in which regulation precedes, or at least accompanies, partnership projects between the public and private sectors. Indeed, some of these developments have been formalized before the proclamation of Federal Law 8,987/95. This is a law for public concessions in general which does not contain specific directives for this sector. Due to the absence of a well-defined regulatory structure in municipalities that assume control of their own services, privatization has occurred in a laissez-faire environment.<sup>12</sup> Table 9 summarizes all privatization

11 The CEF published a Financial Operations Manual for this program in June 1998, setting guidelines on the following forms of fund-raising: Debentures; Insurance on receivables; IPOs; and Participation Certificates on Future Concessionaire Revenues (TPR). See CEF/Eesan/Geaof (1998).

12 Already in August 1996 the Brazilian Public Water Utility Concessionaires Association (Abcon) was created, gathering 44 private companies that have been granted partial or full concessions or licenses, as well as companies that have a stockholding in concessionaire companies.

Tabela 9

### Privatização do setor de água e saneamento no Brasil

Empresa	Localidade e população privado (1.000 hab.)	Grupo Modalidade	Prazo Investimento (anos) e início milhã o)	Principais obras e instalações
Águas Limeira	de Limeira (SP) - 200	Consórcio CBPO/Lyon naise des Eaux	Concessã o plena junho de 1995	Elevatór ias e tratamen to de esgotos
Águas Juturnaíba	de Araruama, Saquarema e Silva Jardim (RJ) - 120	Consórcio Developer, C o w a n , Q u e i r ó z Galvão, Trana e Erco	Concessã o plena março de 1998	Adutoras, reservat ório e redes de á g u a , r e d e s , elevatóri as e tratamen to de esgoto
Prolagos	Cabo Frio, Búzios, São P e d r o d 'Aldeia, Aranha, Iguaba Arraial do Cabo (RJ) - 220	Consórcio P E M Arraial do Cabo e Planup e Epal ( s o m e n t e água)	Concessã o plena, exceto maio do 1998	Adutoras, redes e tratamen to de á g u a , r e d e s , elevatóri as e tratamen to de esgoto
Companhia de Saneamento de Jundiaí	Jundiaí (SP) - 300	Consórcio Augustop Velloso, Coveg Tejofran	Concessã o parcial dez ro de 1996	Emissár ios e tratamen to de esgoto

Cavo Serviços de Saneamento S.A.	Itu Itu (SP) - 113	Companhia Concessão 20 de 21 Auxiliar de p a r c i a l mar Viação e (tratamento ço de obras - Grupo de esgotos) 1996 C a m a r g o Corrêa	Emissár i o s , elevatóri as e tratamen to de esgoto
Águas Imperador	do Petrópolis (RJ) - 240	Consórcio Concessão 30 de 83 Developer, plena C o w a n , Q u e i r ó z Galvão, EIT e Trana	Tratame nto de água e de esgoto
A m b i e n t S e r v i ç o s Ambientais	Ribeirão Preto (SP) - 450	Consórcio Concessão 20 de 38 REK e CH <sub>2</sub> M p a r c i a l sete Hill Intl. Co. (tratamento mbro de esgoto) d e 1995	Emissár i o s , intercep tores e tratamen to de esgoto

programs for water and sanitation services at the municipal level to date [see *O Empreiteiro* (1998, p. 52)]. An analysis of this table reveals that:

(i) These projects have benefited 3.2 million people, corresponding to some 2 per cent of the Brazilian population.

(ii) Total projected investment is US\$ 843 million.

(iii) The amount of investment per capita is US\$ 263, a figure that is slightly higher than the per capita investment level proposed in the National Water and Sanitation Policy (R\$ 42 billion/150 million inhabitants = R\$ 280 or US\$ 233 per capita).

(iv) The distribution of the beneficiary population by state is: São Paulo, 1,705,000 inhabitants and US\$ 234 million; Rio de Janeiro, 1,380,000 inhabitants and US\$ 559 million; and Paraná, 110,000 inhabitants and US\$ 50 million.

(v) The municipalities in the State of Rio de Janeiro have opted for full concessions, while those in the State of São Paulo

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have decided to grant partial concessions, and, in some cases, licenses for specific functions. Partial concessions have mainly involved sewage treatment plants, and this may be explained by a combination of three factors: (1) the active role played by São Paulo's Public Prosecution Office, making requests for official decisions regarding sewage treatment; (2) the fear of losing full control of services on account of their political value; and (3) the presumption that current owners will resolve other service problems.

In most cases, the private groups interested in water and sewage services are traditional contractors for public works, motivated by the contraction of their usual markets and by the expectation that their concessions will lead to further construction projects. In a number of cases, consortia of contractors include a foreign partner to take care of operation and management activities, since there are no experienced private water utility companies in Brazil.

The privatization projects to date show a relatively large variety of characteristics with regard to financial and tariff structures. In a number of cases, partner companies have provided all the necessary capital (equity) to finance new investment projects. In other cases, the new concessionaires have planned financial operations, which often still depend on loans requested from, but not yet granted by private and/or public financial institutions, both domestic and foreign. The tariff structures of privatized companies are in line with those traditionally adopted by the sector in Brazil, which are based on minimum consumption rates, stepping up block-rate tariffs, differentiated rates according to user groups. In addition, CESB tariffs have been used as a cap on tariffs, helping to forestall accusations that privatization has harmed consumers.

With regard to the CESBs, despite a considerable debate and even a number of initiatives directed towards their privatization, the only instance of this so far is that of Sanepar (Paraná). This company has sold a block of its shares to private groups – Companhia Paranaense de Eletricidade (Copel), Andrade Gutierrez and Générale des Eaux –, with the state government still retaining control of the company. On the other hand, the privatization of Cedae (Rio de Janeiro) has been blocked in the courts. A number of companies have been in the process of contracting loans from Propar in order to finance their respective privatization programs but are awaiting the publication of BNDES's study of a model for the privatization of the water and sanitation sector. Sabesp (São Paulo) has announced a possible association with a "strategic partner" that would buy up to 20 per cent of its capital and sign a stockholders' agreement allowing it to take the management control of the company. However, nothing concrete has occurred thus far. Table 10 presents the current state of the institutional transformation process for the CESBs, which suggests the prospect of various forms of partnership with the private sector [see Baltar (1998)].

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Tabela 10

**Transformações institucionais em curso nos estados**

Estado	Modelo de gestão	Sistema regulador existente	Sistema regulador a ser elaborado
Bahia	Indefinido. Embasa renovou contratos concessão 1997/98	Indefinido. Inicia discussão sobre 190 Lei de Prestação dos Serviços, de criação de agência reguladora e em regulamentação dos serviços	
Minas Gerais	Indefinido	Lei da Política Estadual de Saneamento; Projeto de Lei do Conselho de Saneamento; Criação da Agência Reguladora Multissetorial (saneamento excluído)	Sistema regulador em elaboração; Inicia discussão Lei de Prestação dos Serviços e criação de agência reguladora
Pará	Indefinido. Alternativas preliminares estudadas: reestruturação da Companhia (metropolitana/interior); contrato de gestão (metas e estruturas de incentivo); concessão do sistema metropolitano.	Indefinido. Propostas discutidas: minuta de lei para criação de agência reguladora; modelo de contrato de gestão	

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## **6. Conclusions**

The privatization of water and sewage services in Brazil is still at the pre-regulatory stage, and is thus lagging behind other “pioneering” countries in Latin America, namely Argentina and Chile. To some extent the federal political and administrative organizations of the country makes it difficult to formulate standardized models of privatization, and in this regard there is resemblance to the Argentine and French models.

The outlook for privatization in Brazil is highly promising, given a large demand for water and sewage services, huge investment needs in the sector and the financial and other difficulties faced by public institutions. Nevertheless, the obstacles to the full development of private initiatives in the sector should not be underestimated. Two are worth noting:

(i) The lack of a clear and effective privatization policy for the sector remains a major shortcoming. The Brazilian president has declared that the water and sanitation sector will be subject to effective federal measures towards privatization from 1999 onwards, but has not proposed a new regulatory framework. Furthermore, although the federal government can influence what happens in the sector, it cannot act alone, since it does not have the power to grant concessions. Thus it is necessary, even if not sufficient, for the commitment to privatization to trickle down to the local level. To date this has only occurred to a limited extent.

(ii) The large variety of physical, political/institutional, legal, financial and ideological situations at the municipal and state levels leads to divergent, often conflicting interests, which make it difficult to establish a common regulatory framework for this sector. In many cases this has blocked a clear definition of ownership rights, with protracted conflicts between municipal and state authorities hindering the privatization efforts. If no negotiated solution is reached, the conflict may end up in the judiciary, further delaying the progress of privatization in the sector.

The PLS 266/96 draft law, which is intended to provide a legal framework for this subject, is in the final stages of discussion in the National Congress, albeit without entirely clear definitions. As a result, individual state governments are being left to draft their own legislation for the establishment of conceding authorities following political negotiations with the relevant municipalities. Thus despite the various models set out in Table 10, concrete measures that insuring legal protection to private investors are only likely to materialize after the approval of the state laws foreseen in the same draft law. The frequently mentioned possibility of revising the Federal Constitution in order to define

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the ownership of water and sewerage services is unlikely for political reasons. In any case, regardless of the outcome of these initiatives, the progressive spread of the various forms of public-private partnership in the supply of water and sewerage is irreversible.

## **Appendix. Constitutional Rulings about the Water and Sanitation Sector**

a) Article 175 of the Federal Constitution: *the relevant public sector body is responsible for providing public services, whether directly or through concessions or licenses, which will always be subject to a tender process.*

First paragraph – *legislation will cover the following issues:*

I. *The regime for companies holding concessions or licenses for the supply of public services, the special characteristics of such contracts and the terms of their extension, as well as conditions of default, supervision and rescinding of concessions or licenses;*

II. *The rights of users;*

III. *Tariff policy;*

IV. *The obligation to meet adequate service standards.*

b) Article 21, Insertion XX of the Federal Constitution: *The federal government is responsible for implementing directives regarding urban development, which includes housing, water and sanitation and urban transport.*

c) Article 23 of the Federal Constitution: *Federal, state and municipal governments are jointly responsible for:*

Insertion VI. *Protecting the environment and combating pollution in any of its forms;*

Insertion IX. *Promoting programs for housing development and the improvement of housing and water supply and sanitation conditions;*

d) Article 24 of the Federal Constitution: *Federal, state and municipal governments are responsible for drafting concurrent legislation regarding:*

Insertion VI. *Forests, hunting, fishing, wildlife, conservation of nature, protection of the soil, natural resources and the environment, and pollution control;*

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Insertion VIII. *Responsibility for damage to the environment, to consumers, to assets and privileges of artistic, aesthetic and historical value, as well as to landscapes and tourist attractions;*

Insertion XII. *Pension rights and health care*

e) Article 25 of the Federal Constitution, Paragraph 3: *State governments may, through complementary laws, create metropolitan regions, urban agglomerations and microregions consisting of neighboring municipalities, in order to coordinate the organization, planning and performing of public functions that are in their common interest.*

f) Article 30, Insertion V of the Federal Constitution: *Municipal governments are responsible for organizing and providing, either directly or via concession or license, services that are of local interest, including public transport, which has the character of an essential service.*

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