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CHAPTER 2

Reform Efforts and Low-Level Equilibrium in the Honduran Water Sector

Ian Walker, Max Velásquez, Fidel Ordóñez, and Florencia María Rodríguez[1]
Fundación Centroamericana para el Desarrollo Humano (FUMANITAS)

The water sector in Honduras has performed poorly and a "low-level equilibrium" is maintained by keeping rates too low to finance efficient service expansion. A comparison of the performance of the national water authority (SANAA) with various municipal services provides a useful context for reviewing the current reform debate over regionalization and municipalization. The key issue is not municipal versus national control of service provision, but whether the system operates free of direct political control and whether all types of service providers are adequately regulated. The sector continues to depend on external funds to support investment and its operations are grossly inefficient. Consumers are relatively less willing to accept higher rates in return for promises of improved performance when dealing with public entities that lack credibility, than they are with private or community controlled entities. A stakeholder analysis suggests ways to break out of the low-level equilibrium and establish a more efficient sector.

[1] Ian Walker is director of ESA Consultores; Max Velásquez and Florencia María Rodríguez are senior consultants on urban development at ESA Consultores; Fidel Ordóñez is chief of the statistics division of ESA Consultores.

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The urban water and sanitation sector in Honduras suffers from the perplexing phenomenon of a low-level equilibrium, in which poor quality public services are sustained indefinitely, avoiding corrective pressures. This low-level equilibrium is reflected in the sector's performance and is perpetuated by flawed arrangements for sectoral governance, organization of service delivery, and regulation. Why is it so difficult to escape from a low-level equilibrium? An analysis of the failure of recent reform efforts using political economy techniques provides insight into this question.

The performance indicators for the state-owned *Servicio Nacional de Agua y Alcantarillado* (SANAA) and for municipal providers show that their poor record is rooted in their exposure to political capture and in the lack of adequate regulation rather than in the degree of centralization or decentralization. Supporting econometric evidence on the credibility of different sorts of service providers, using willingness to pay data from a recent nationwide survey, suggests that public providers lack credibility and are more exposed to rent-seeking behavior than are private providers. A financial analysis of SANAA shows that it could quickly become self-financing if it reached reasonable goals for cost effectiveness and rate levels, which would produce very large welfare gains indeed. The case for reform is overwhelming, but the political task of organizing reform is considerable.

The political economy of reform can be traced back to the failed Water and Sanitation Sector Structural Adjustment Credit, which was supported by the World Bank and the Inter-American Development Bank (IDB) during 1994–96. A stakeholder analysis shows how the proponents of reform failed to mobilize potential sources of support and how the government itself was divided, while critics exploited weaknesses in the proposal to mobilize opposition. Two weaknesses in the adjustment effort were particularly damaging. First, the reform proposal made municipalization a central principle but failed to address the poor performance and low credibility of existing municipal systems. A review of recent efforts at municipalization in Honduras concludes that the strategy is feasible but not a panacea for all of the sectors' ills. There is a need to develop a credible model of municipal water system operation that is free from political interference. Second, the reform proposal did not adequately address the issue of a regulatory guarantee for users. These lessons have been incorporated into the current reform strategy and have thus strengthened the prospects for success in the coming years.

Box 2.1 Organization of the Water and Sanitation Sector in Honduras

The *Servicio Autónomo Nacional de Agua y Alcantarillado* (SANAA) was formed in 1961 as an autonomous state enterprise, to serve as the leading institution in the water and sanitation sector, responsible for setting and enforcing service delivery norms and for operating services in all urban communities with populations above 500.

The law that created SANAA specified that it would gradually assume control of all existing municipal water and sewerage systems in Honduras. However, the law stopped short of creating a legal monopoly, and at present in Honduran towns with populations of 2,000 or more, there are 74 municipal water systems (including that of the second largest city, San Pedro Sula), compared with 23 SANAA systems. All towns with fewer than 2,000 people have either municipal or community based systems.

Municipal utilities supply around 65 percent of urban water connections, covering some 54 percent of the urban population, while SANAA supplies 35 percent of connections, covering 29 percent of the urban population; the only sewerage system run by SANAA is in Tegucigalpa.

In 1990 municipal development legislation established water and sanitation as municipal competencies; however, the law that created SANAA was neither repealed nor reformed, so the existing statutes are contradictory.

Performance of the Water and Sanitation Sector

The performance of the water and sanitation sector over the last 20 years has not been good. Coverage of piped potable water services in the urban sector has stagnated since 1973 at just over 80 percent (Table 2.1); the water networks have expanded only fast enough to keep abreast of population growth. In contrast, in the rural areas (communities with fewer than 500 inhabitants), coverage of piped water has grown sharply, from 21 percent in 1973 to 40 percent in 1993, but is still very low. Including nonpiped sources such as wells, some 53 percent of rural dwellers were estimated to have access to potable water in 1993.

Within these totals, SANAA is directly responsible for only 23 percent of all connections, covering just 14 percent of the population of Honduras (Table 2.2). However, SANAA has also been involved in the construction of rural systems supplying water to an estimated 440,000 people, now administered by local *juntas de agua* (water committees).

Table 2.1 Water and Sanitation Coverage in Honduras

	Water					Sanitation			
	Piped			Total		Sewerage		Total incl. latrines	
	1973	1988	1993	1988	1993	1988	1993	1988	1993
	Millions of people covered								
Urban	0.76	1.4	2.05	1.51	2.22	0.93	1.24	1.54	2.25
Rural	0.41	0.97	1.09	1.12	1.45	0.20	0.14	0.95	1.23
National	1.17	2.38	3.12	2.64	3.64	1.15	1.3	2.51	3.43
	Percentage of population covered								
Urban	81	80	83	86	90	53	50	88	91
Rural	21	39	40	45	53	8	5	38	45
National	43	56	60	62	70	27	25	59	66

Source: PAHO, WHO (1993), and authors' calculations.

Table 2.2 Population with Coverage by Type of Provider, 1993

	Persons (million)	Population (percent)	Connections (percent)
Urban	**2.05**	**83**	**10**
SANAA	0.71	29	35
Municipal	1.34	54	65
Rural	**1.09**	**40**	**100**
SANAA	0.02	1	2
Other[1]	1.08	39	98
National	**3.12**	**60**	**100**
SANAA	0.73	14	23
Municipal	1.34	26	43
Other[1]	1.05	20	34

Note: 1/ Many of the rural systems were constructed by SANAA but then handed over to a water committee. SANAA estimates that 440,000 persons living in rural areas are covered by such systems.

Sources: Calculated from SANAA and PAHO data.

Only 29 percent of the urban population is covered by SANAA (Table 2.2). Municipalities are responsible for 65 percent of urban connections, which supply around 54 percent of the urban population.

The Metropolitan Systems

Honduras has two major cities: the capital, Tegucigalpa, in the center of the country, with a population of 800,000; and the industrial center, San Pedro Sula, on the north coast, with a population of just under 500,000. The water and sewerage system of Tegucigalpa is run by SANAA; that of San Pedro Sula is run by the municipality.

The Tegucigalpa system dominates SANAA's operations, accounting for more than half of the company's 140,000 connections. Water coverage in Tegucigalpa, at 85 percent, is scarcely better than the national urban average of 83 percent, and much of that coverage is due to private systems that have been created to fill the vacuum left by SANAA. According to SANAA's commercial cadastre there are 72,000 domestic connections in the city; this represents fewer than half the city's households. The cadastre is known to be very inadequate, but even supposing the existence of a further 38,000 illegal or unregistered connections to the SANAA system, this still leaves 30 percent of Tegucigalpa's dwellings uncovered by the SANAA system (Table 2.3).

This high percentage of uncovered dwellings reflects SANAA's failure to expand services to the marginal *barrios*, mainly located on high ground, to which it is relatively costly to deliver water supplies due to the need for pumping stations. The unresolved tenure status of many of these settlements also creates problems for their formal incorporation into the public service.[2] About a third of the dwellings in these settlements have piped water from private distribution systems administered by *barrio* committees. Some have

[2] In Central America, contractual rights to public services are attributions of individuals, not of their property, and are in principle transferable between properties, but not between persons. Public utility companies will not normally extend service contracts to individuals whose tenure status is contested, since this may expose them to legal action on the part of the legal owner of the property. This contrasts with many countries in South America where the service is attributable to the property and is automatically extended to whomever occupies the property, so that tenure is not an issue in extending service coverage to marginal areas.

Table 2.3 Tegucigalpa: Piped Water Coverage by Type of Provider, 1996

	No. Connections (thousands)	Share (%)
SANAA—cadastre	72.0	46
SANAA—illegal	38.0	24
Private networks	24.5	16
Without domestic connection	22.5	14
Total	157.0	100

Sources: Based on data from DGEC for the total number of dwellings and for the percent without a connection; from SANAA for the number of formal domestic users in the cadastre; SANAA for the number of marginal *barrio* users in private systems that receive water from SANAA; and Walker and Ordoñez (1995) for marginal *barrio* users of private systems with an independent supply. The estimate for illegal connections to the SANAA system is then calculated as a residual. SANAA's own estimate of illegal connections is much lower, at 15,000.

Table 2.4 SANAA: Annual Costs per Connection, 1993[1]

	Tegucigalpa	Other	Total[2]	
	L	L	L	US$[3]
Labor costs	140	77	181	26.6
Energy	61	87	74	10.9
Chemicals	87	6	49	7.3
Depreciation and provisions	0	0	74	10.8
Other operating costs	17	12	35	5.2
Total	305	181	414	60.8

Notes: 1/ Excludes debt interest, which is absorbed by the central government.
2/ Including the costs of central administration.
3/ Exchange rate of 6.8 lempiras per U.S. dollar.

Source: Aquagest (1995) and authors' calculations.

their own wells; others receive water from SANAA's network, either illicitly or on the basis of the block rate[3].

Many bilateral lenders and NGOs support the development of water systems in marginal *barrios*; most notably, UNICEF has a project with SANAA to finance the construction of distribution systems in such barrios. However, these systems usually offer inferior service. *Barrios* with their own wells tend to have poor quality water with high salinity. Those whose water is supplied in block by SANAA usually face infrequent service and low pressure. Meanwhile, some 22,500 dwellings—almost 15 percent of the city's total—are altogether without piped water.

SANAA's failure to expand coverage is rooted in poor cost performance and a weak rate effort. The metropolitan system of Tegucigalpa has an estimated 13.6 staff per 1,000 connections—at least three times the necessary level.[4] These high staffing levels are attributable mainly to a rigid labor agreement that prevents multitasking.[5] Detailed data for SANAA's cost structure (Tables 2.4 and 2.5) show that the main problems are rooted in labor costs in Tegucigalpa and in the central administration. Labor costs per connection in Tegucigalpa in 1993 stood at L 140 per year, almost double the L 77 incurred in the rest of the country (Table 2.4). Additionally, there is a very large labor cost in the central administration, representing 17 percent of SANAA's total costs (Table 2.5).

The performance of SANAA's Tegucigalpa system contrasts poorly in many respects with that of the *División Municipal de Aguas* (DIMA) in San Pedro Sula. Formed in 1976, DIMA is part of the municipality but is admin-

[3] The block rate is a wholesale rate for the sale of water to independent distribution systems. It is set well below the normal commercial rate in order to reflect only production costs and not distribution and commercial costs.

[4] Author's estimate, including a share of SANAA's central administrative employment in proportion to the number of connections in the city. Estimates for SANAA's staffing levels vary considerably, in part due to the practice of including many employees on the payroll of investment projects, which are not consolidated into the company's accounts. This estimate for Tegucigalpa is derived from data on labor costs, and is probably conservative. The overall number of SANAA employees per thousand connections was estimated in January 1995 at 14.7, which would imply a higher ratio for Tegucigalpa.

[5] During 1997, SANAA has made some headway in negotiating with the union to increase flexibility and reduce staffing levels. However, few redundancies have been implemented. In January 1997, SANAA had a total staff of 1,809, which is 13 per 1,000 connections, compared with 1,936 staff a year earlier (13.8 per 1,000).

Table 2.5 SANAA's Cost Structure, 1993[1] (percent)

	Central admin.	Tegucigalpa	Other systems	Total
Labor costs	17	18	9	44
Energy	0	8	10	18
Chemicals	0	11	1	12
Depreciation and provisions	18	0	0	18
Other operating costs	5	2	1	8
Total	40	39	20	100

Note: 1/ Excludes debt interest, which is absorbed by the central government.
Source: Authors' calculations from data in Aquagest (1995).

Table 2.6. Performance Indicators for SANAA's Metropolitan System and DIMA, 1994

	SANAA (Tegucigalpa)	DIMA (San Pedro Sula)
Legal individual connections	76,050	59,794
Domestic	71,713	54,064[1]
Other	4,337	5,730
Coverage of legal domestic connections	46%	84%[2]
Percent of all connections with meters	64%	43%
Unaccounted for water	50%	48%
Employees per 1,000 connections	13.6	6.5[3]
Total billings, L million/year	38.6	46.3
Billings per connection, L/month	42	64
Income from billings, L million/year	26	31.4
Collection rate	67%	68%
Income per connection, L/month	28	44

Notes: 1/ The figure for DIMA includes projects and special connections.
2/ Percent of households in the city legally connected to the system; authors' estimate.
3/ The figure for Tegucigalpa, including a share of central administrative posts in proportion to connections, is the authors' estimate.

istratively independent. In spite of the rapid growth of San Pedro Sula (7 percent annually in recent years), it has achieved coverage of 84 percent. In 1994, DIMA reported 6.5 employees per 1,000 connections (Table 2.6).

The SANAA system in Tegucigalpa also shows a much weaker income performance compared with that of DIMA. In 1994, average billings per connection stood at L 42 per month in Tegucigalpa and L 64 in San Pedro Sula, and income per connection was, respectively, L 28 and L 44. In this context, it is striking to note that in 1994, DIMAs annual revenues (L 31.5 million) were scarcely below SANAA's total revenue for the entire country (L 35.8 million).

However, DIMAs operation is not superior to SANAA's Tegucigalpa system in all aspects of performance. DIMAs metering coverage in 1994 was 43 percent compared to 64 percent for Tegucigalpa; its level of unaccounted-for-water[6] stood at 48 percent, scarcely better than Tegucigalpas 50 percent; and the collection rates of the two systems are very similar, with income totaling just under 70 percent of billings (Table 6). And, most importantly, both have exhibited serious problems with political interference in their management of water rates.

Nonmetropolitan Systems

The performance of seven nonmetropolitan SANAA systems and nine municipal systems[7] were analyzed to see if there are any systematic differences in performance that might be attributable to the system's administration, rather than to other characteristics. As described in Table 2.7, the systems have broadly matching characteristics in relation to size, type of water source, poverty levels in the corresponding community, and geographical location.

[6] This is the difference between the total volume of potable water produced by the system and the total amount billed to users. It is composed of physical losses due to leaks in the distribution system, plus water that is undercharged to the users (i.e., where estimated billing is used, rather than metering), or that is simply stolen from the system by illegal users.

[7] This section is based on a survey carried out in mid-1995 by FUNDEMUN for the World Bank, and on data on municipal performance collected by FUNDEMUN and AHMON. FUNDEMUN, AMHON, and the World Bank gave permission to use these data sources, but responsibility for the analysis of the data and for the conclusions is the authors' alone.

Table 2.7 Characteristics of the Nonmetropolitan and Municipal Systems Studied

	System Type	Urban population	Type of source	Poverty index (higher = poorer)	Area
Choluteca – Municipal	Mun	70,585	P	34	South
Choloma	Mun	70,200	P	33	North
Sta. Rosa de Copán	Mun	24,356	P	44	West
Olanchito	Mun	24,000	G	28	North
Tocoa	Mun	18,916	G	26	Atl. coast
El Paraíso	Mun	16,613	G	34	Center-east
Nacaome	Mun	15,304	P	53	South
Ocotepeque	Mun	11,166	G	25	West
Azacualpa	Mun	5,100	G	34	West
Choluteca—SANAA	SANAA	70,585	M	34	South
Comayagua	SANAA	52,355	G	32	Center-west
Danlí	SANAA	38,088	M	40	Center-east
Juticalpa	SANAA	28,700	P	39	Center-east
La Entrada	SANAA	18,412	M	33	West
Intibucá	SANAA	10,088	G	53	Center-west
Sn. Marcos de Colón	SANAA	7,966	M	43	South

Note: G = gravity, P = pumped, M = mixed.

Table 2.8 presents a summary of indicators of physical efficiency for the two types of systems. While there are considerable variations within each group, it is striking that the averages are very similar. Each group has achieved coverage of only 68 percent of the urban population. Service frequency averages 11 hours a day in the municipal systems and 10 in the SANAA systems; 67 percent of municipal users and 77 percent of SANAA users face intermittent service. And most strikingly, both groups have very low staff levels: four per 1,000 connections for the municipal systems and five for the SANAA systems. This serves once more to show that overstaffing in SANAA is concentrated in Tegucigalpa.

The similarities between municipal and SANAA suppliers are again evident in the indicators of financial performance, which are presented in Table 2.9. Operating cost per connection averaged L 252 per year in the municipal group and L 225 in the SANAA group. Labor cost per connection

Table 2.8 Indicators of Physical Efficiency in Nonmetropolitan Systems: 1994

	Clients	Water coverage (percent)	Sewerage coverage (percent)	Hours of service (average)	Intermittent service (percent of users)	Staff/ 1,000 connections
Municipal systems						
Azacualpa	850	100	0	24	0	2
Choloma	4,771	41	25	14	60	5
Choluteca—Municipal	1,100	n.a.	n.a.	n.a.	n.a.	15
El Paraíso	2,300	83	33	n.d	n.a.	2
Nacaome	1,113	44	10	11	100	6
Olanchito	3,184	53	54	6	85	2
Ocotepeque	1,846	89	n.a.	8	70	2
Sta. Rosa de Copán	2,254	50	40	6	60	4
Tocoa	2,650	84	8	5	95	4
Totals and averages [1]	20,068	68	24	11	67	4
SANAA systems						
Comayagua	6,402	73	69	17	30	3
Choluteca—SANAA	6,709	n.a.	n.a.	n.a.	n.a.	8
Danlí	3,344	53	54	n.a.	90	2
Intibucá	1,220	73	30	18	50	4
Juticalpa	3,500	73	59	8	100	6
La Entrada	1,968	64	8	3	100	9
San Marcos de Colón	998	75	26	6	94	4
Totals and averages[1]	24,141	68	41	10	77	5

Note: 1/ Reported is the weighted average for staff per 1,000 connections; the other averages are simple.

is L 72 in the municipal group and L 97 in the SANAA group, reflecting the latter's slightly higher staffing levels; wage levels appear to be similar between the two groups.

The municipal systems studied registered better pricing, billing an average of L 189 per connection, compared with L 125 for SANAA. However, this is offset by a much lower collection rate of 55 percent for the municipalities compared with 85 percent for SANAA. As a result, income per connection is similar between the two groups (L 103 and L 107, respectively). It is also striking that SANAA registered zero income for the Juticalpa system,

Table 2.9 Indicators of Financial Efficiency in Nonmetropolitan Systems: 1994

	Operating cost per conn.[1]	Labor cost per conn.	Billings per conn.	Collection rate[2]	Income per conn.	Total profit[3]	Profit per conn.[3]	Profit as % of expenses	Policy of service suspension?	% with meter
Municipal systems	L/yr.	L/yr.	L/yr.	%	L/yr.	L/yr.	L/yr.	%		%
Azacualpa	27	n.a.	n.a.	n.a.	23	-3,185	-4	-14%	NO	0
Choloma	437	67	230	68	157	-1,335,864	-280	-64%	YES	0
Choluteca—Municipal	609	169	250	n.a.	n.a.	n.a.	n.a.	n.a.	YES	n.a.
El Paraíso	148	n.a.	n.a.	n.a.	120	-63,882	-28	-19%	YES	0
Nacaome	301	47	121	92	112	-211,000	-190	-63%	YES	0
Olanchito	75	n.a.	68	89	61	-45,550	-14	-19%	NO	0
Ocotepeque	19	n.a.	n.a.	n.a.	58	71,266	39	203%	NO	0
Sta. Rosa de Copán	484	46	279	47	131	-796,429	-353	-73%	YES	0
Tocoa	91	n.a.	189	99	187	253,154	96	105%	NO	0
Totals and avs.[4]	252	72	189	54	103	-2,801,594	-140	-55%		0
SANAA systems										
Comayagua	96	n.a.	167	89	149	339,696	53	55%	YES	8
Choluteca—SANAA	272	130	138	98	136	-916,714	-137	-50%	YES	n.a.
Danlí	205	49	125	99	124	-272,066	-81	-40%	YES	0
Intibucá	91	n.a.	150	79	119	33,703	28	30%	YES	0
Juticalpa	447	80	0	0	0	-1,564,884	-447	-100%	n.a.	0
La Entrada	203	123	122	87	122	-159,597	-81	-40%	YES	1
San Marcos de Colón	223	49	157	64	101	-121,932	-122	-55%	YES	0
Totals and avs.[4]	225	97	125	85	107	-2,661,794	-110	-49%		1

Notes: 1/ Defined as total expenditure on water and sewerage per water system connection.
2/ System income from water and sewerage as a percent of billings.
3/ Negative sign indicates a deficit.
4/ Weighted averages for operating expenditure per connection and for operating profit. Other averages are simple.

which had recently received significant new investments under the IDB's Four Cities project. As a condition of this investment, the system was transferred from municipal control to SANAA ownership, but at the time of this study SANAA had not yet organized a commercial system.[8]

The data on operating profits show that, on average, the municipal and SANAA nonmetropolitan systems are equally incapable of covering their costs. There is little here to support the hypothesis that municipal politicians are in general less prone to undercharging than their counterparts in central government. In fact, the loss per connection in the municipal systems averages L 140 per year compared to L 110 for the SANAA systems. Losses averaged 55 percent of expenses in the municipal group and 49 percent in the SANAA systems. Nevertheless, two of the municipal systems studied, Tocoa and Ocotopeque, registered a tidy profit, showing that municipal operators in some circumstances may overcharge for water, generating surpluses that can be used to fund other projects.

How Governance and Regulation Contribute to Poor Performance

The analysis above places in doubt the thesis that centralized organization is the sector's main problem. Both the centralized (SANAA) and the decentralized (municipal) systems exhibit serious weaknesses in their performance. All the nonmetropolitan systems studied appear to be undercapitalized and poorly administered and all are in need of investment resources and technical assistance for both their physical and organizational development. Rather, the sector's poor overall performance is rooted in the weakness of the existing structure of sectoral governance and regulation, which fails to comply with most of the internationally established norms.[9]

[8] Data for the SANAA system as a whole for 1994 show billings per connection outside Tegucigalpa of L 134, very close to the L 125 found in the sample. Income per connection was L 148, implying a collection rate of 110 percent, presumably due to the charging of arrears. In 1995, the situation changed radically. SANAA billed L 234 per connection, but collected only L 86, a collection rate of 37 percent. It is also striking that although 46 percent of SANAA's connections are outside Tegucigalpa, only 22 percent of billings and 15 percent of income arose outside Tegucigalpa in 1995 (Source: SANAA).

[9] A summary of good practice for water sector organization can be found in Foster (1996).

Sectoral Governance and Resource Allocation

Water sector strategy is formally a matter for the Ministry of Health, but is effectively delegated to SANAA, which submits investment proposals for the approval of the Finance Ministry.[10] However, SANAA also acts as the single largest service producer, concerned with procuring resources for its own investments. There is a clear conflict of interest between these functions, the more so because capital resources are supplied as grants (not loans) to SANAA.

SANAA's conflict of interest in acting as strategic planner for the sector and simultaneously as a service provider is clearly reflected in how it skews the distribution of capital resources in its own favor. Although it supplies only 23 percent of the connections in Honduras, between 1989 and 1993 SANAA received 66 percent of Honduras' water sector investments (Table 2.10). SANAA's investments were heavily concentrated in urban projects (73 percent), with much less (27 percent) designated for rural systems. Other agencies important in investment finance in the sector are the Ministry of Health, which finances small rural systems (17 percent of the total); the Honduran Social Investment Fund (FHIS), which finances both rural systems and urban marginal systems (8 percent) and San Pedro Sulas *División Municipal de Aguas* (DIMA) (9 percent).

SANAA's failure to expand coverage at an adequate rate is rooted in its inefficient use of capital rather than in the lack of resources; during 1989–93, the investment assigned to the sector averaged 1.2 percent of GDP (Table 10). As long as system operators receive capital free of charge as grants from the central government, and with no other accountability mechanism, they cannot be expected to use it efficiently. It is hardly surprising, for example, that SANAA has no preventive maintenance program, or that it seeks to disguise a large part of its revenue costs as capital expenditures.

[10] The Finance Ministry has a directorate responsible for monitoring the performance of public service providers; it publishes reports on performance, but this is not functionally important. In 1995-96, the Planning Ministry had an important role in approving public investment proposals; it has since been closed (in 1997) and its functions in this regard were transferred to the Finance Ministry.

Table 2.10 Honduras Water and Sanitation Sector: Distribution of Investment Resources by Agency: 1989–93

	1989	1990	1991	1992	1993	Total	Total (percent)
			L (millions)				
SANAA, Total	86	139	106	119	149	599	66
of which, rural	17	28	34	51	38	167	18
Ministry of Health	17	20	39	44	36	156	17
DIMA	4	6	8	11	50	79	9
FHIS	0	8	23	17	23	71	8
Total	107	173	176	190	258	905	100
Total (% of GDP)	1.0	1.4	1.1	1.0	1.3	1.2	
Total (US$ millions)	38	58	44	33	38	211	
Exchange rate (L/US$)	2.8	3.0	4.0	5.8	6.8	n.a.	

Source: IDB/World Bank/PAHO 1994.

Political Control of System Operation and Rent Seeking

In addition to the inefficient use of capital, the operation of all systems both SANAA and municipal is usually subject to political interference. There is a general belief that water services are a social good that should be subsidized, and nowhere in Honduras does a water system operate with fully independent finances. The result is the capture of system rents by users through generalized under-charging. However, the benefit to users is ambiguous because this practice results in low-quality provision.

Users are not necessarily the main beneficiaries of political interference in the operation of water systems. In SANAA, the workforce captures a large proportion of system rents through a union that has established very high staffing levels in Tegucigalpa. According to a study commissioned by the IDB, the World Bank, and the Pan-American Health Organization, the union has acquired such strength and predominance in the company that the nomination of technical, administrative, and manual staff requires union approval, as do decisions related to operations and control" (IDB/World Bank/PAHO 1994, p.14). The involvement of the union in SANAA's admin-

Box 2.2 DIMA: A Case Study in Political Interference in Pricing Decisions

From 1984 on, to fund the implementation of a water and sanitation master plan, San Pedro Sula took on debt from the World Bank and the Commonwealth Development Corporation, with central government guarantees. It also has outstanding loans from the IDB and USAID. In contrast to the SANAA, DIMA is required by the government to cover the debt service out of its operating revenues. However, the execution of the projects was delayed, in part due to the political problems of the 1980s, and in part due to disputes with principal contractors. As a result, the grace periods on the loans ran out before the works were completed and could begin to generate income. In addition, the lempira cost of the dollar-denominated loan service was inflated by currency depreciation from 1990 onward, while increased reliance on subterranean sources of water, coupled with increased electric rates, led to a tenfold increase in DIMA's electricity bill.

DIMA needed to double its rates to get over the problem—but the municipality refused to approve such a sharp increase. As a result, from 1993 onwards, DIMA faced a cash crunch and the central government had to cover part of the debt service due to the World Bank, to the tune of US$7 million between 1993 and 1995. Although rates were finally adjusted in 1995, the agreed increase was much less than the necessary 100 percent, and DIMA hoped to close the gap by shifting away from its heavy dependence on subterranean sources. These problems have tarnished DIMA's image as a model for the municipal administration of water systems and have generated pressure for increased private sector participation, in order to depoliticize rate setting and provide access to sources of capital.

istration also contributes to weak commercial performance. In late 1996, SANAA's commercial director was replaced at the request of the union when he alleged that union leaders in his department were involved in corrupt practices linked to the assignment of new connections.

Such problems are not limited to SANAA. The nonmetropolitan municipal systems show very similar patterns of water rate levels and service efficiency to those registered by SANAA's nonmetropolitan systems, and in recent years DIMA in San Pedro Sula has also experienced serious problems with political interference in its pricing decision (see Box 2.2).

Econometric evidence on willingness to pay for improved water services provides a measure of the extent to which the politicized control of system operation has undermined the credibility of public sector providers, both SANAA and municipalities. Willingness to pay for service improvements should be positively correlated with the supplier's credibility as a service provider. The evidence, summarized in Box 2.3 and detailed in Walker et al. (1997), suggests that once the effect of other relevant factors such as existing service cost and quality, income and education is controlled for there is little difference in the willingness of clients to pay between SANAA and the municipalities. However, in contrast, willingness to pay for service improvements is much higher among clients of privately administered systems. These results are consistent with the hypothesis that the latter have higher credibility.

Regulatory System

The regulation of the water sector is badly conceived and weakly implemented. It fails in what should be its central goal of defending the right of existing and potential users to receive good quality service at a reasonable cost. SANAA's users effectively have no enforceable rights, and municipal services are completely unregulated.

The principal regulatory agency for the water sector is the *Comisión Nacional Supervisora de Servicios Públicos* (CNSSP), which is responsible for the regulation of water rates. In addition, the ministries of Environment and Natural Resources and of Public Health have regulatory responsibilities regarding the use and protection of water sources, sanitary disposal of waste water, and norms for the quality of piped water supplies.

CNSSP was established in 1991, when, as part of Honduras first structural adjustment program, the IDB and the World Bank proposed the creation of an apolitical agency to set public service rates, including water, telephones, electricity, and transport. Previously, the National Congress set rates directly. CNSSP was given a general mandate to regulate water rates. However, this statute stands in direct conflict with the right of municipal operators to establish their own rates under the municipal legislation of 1990 and 1991 (articles 84, 85, and 86 with their corresponding regulations; Chama 1995). In practice, CNSSP has limited itself to regulating the SANAA rate.

CNSSPs structure strongly suggests that it was conceived as a body for the political negotiation of public service rates rather than as a technical body dedicated to the independent determination of the cost of services and of equitable mechanisms for their recovery. It is formally autonomous

Box 2.3 The Low Credibility of Public Providers Undermines Users' Willingness to Pay

Willingness to pay (WTP) for improved water services might be expected to vary under different conditions of system administration for two reasons, each related to the supplier's credibility.

- WTP for promised service improvements is a positive function of the confidence that the improved service will materialize (due to greater efficiency and/or less corruption).
- WTP is an inverse function of the perceived scope for rent seeking: if users believe they can improve services through political mechanisms, their WTP will be lower.

In a national survey of water demand conducted by the authors in 1995 (Walker and Ordoñez 1995), for SANAA and the World Bank, households with a piped water connection and with service inferior to four hours per day were asked if they would be prepared to pay a given price for improved service, defined as: at least four hours a day of potable water with good pressure. System administration had a clear impact on the responses. When the system administration is private (via barrio committees called *patronatos*, or specialized barrio committees that only deal with water, called *juntas de agua*), the probability of acceptance is much higher. This effect is especially marked where the administrator is a *patronato*.

Willingness to Pay Estimates

Estimates were made of the average willingness to pay (WTP) for the improved system for each type of system administration. The analysis shows much higher WTP for improved water service among the users of services run by *juntas de agua* and *patronatos* in the marginal *barrios* of Tegucigalpa (L36.6/month and L44.8/month, respectively), compared with both clients of SANAA and municipal clients (with L18.7/month and L21.5/month, respectively). Within the public sector, WTP is higher when the administration is municipal than when it is SANAA. These findings support the hypotheses that

- the credibility of municipally administered systems is somewhat higher than that of SANAA; and
- private community-based administration leads to a higher willingness to pay for improved water services, presumably because there are fewer perceived opportunities for rent seeking.

The obvious policy conclusion is that the municipalized water systems should, wherever possible, be managed by enterprises at arm's length from the local government in order to discourage rent-seeking activity by the systems' clients, and that private management can be expected to contribute positively to the improvement in system performance.

Note: For details on the econometric analysis reported here, see Walker et al. (1997).

but in practice is linked to the Ministry of Transportation. It has few resources at its disposal, with a budget of US $100,000 per year from the central government and only four professional staff, so it depends heavily on the regulated entities for information.

The fact that the director has remained unchanged since the CNSSP began operations, in spite of the change of government in 1994, suggests some degree of independence from the executive arm of government. However, the government has an effective majority on the CNSSP. Its 14 deliberative members include the minister of transportation, who chairs and has a vote, the ministers of finance and trade, the four professional staff of CNSSP (nominated by the government), two congressional representatives, two private sector representatives, two trade union representatives, and one representative of *barrio* organizations.

The rate setting process in CNSSP has always been politicized, with long intervals between revisions leading to severe erosion of SANAA's real income by inflation. The water rate had not been adjusted for five years between 1990 and 1995 when a 100 percent increase was authorized, but inflation since the previous increase had been 159 percent (Table 2.11). The interval between rate adjustments was similar when the Congress controlled rates directly.

The procedures followed for the negotiation of the 1995 increase highlight the politicized nature of the process. Before it was approved, the increase was discussed and informally approved by the government's economic cabinet, which simultaneously considered requests for rate increases by the electricity and telephone companies and decided to give priority to SANAA's request. It was thought politically untenable that more than one increase should be approved. The law that established CNSSP (Decreto 85–91) stipulates (Article 1) that rates should be based on "the real economic cost of providing services to each category of consumers" (Rendón Cano 1995). But in practice, rates have always been well below this level. The 1995 rate increase was based on a study of the income needed to cover annual operating costs.

Financing the Low-level Equilibrium

The government finances SANAA's deficits through a series of subsidies, most of which are not transparent. These include: capital grants for project finance, which in reality contain large elements of operational financing; the

Table 2.11 SANAA Water Rates and Inflation: 1990–1995

Residential Water Rate (Tegulcigalpa)	1990 (Aug)	1995 (Sept)	% Increase
Cost of 35 M³ (L)	14.9	30	101%
Consumer Price Index	286.5	741.7	159%

payment by the central government of all interest and amortization on the debt related to SANAA's investments; and the partial nonpayment of electricity charges and chemical costs.[11] In this context, SANAA's day-to-day financial management problem is reduced to the generation of sufficient cash from water rates to cover the payroll. This has provided an objective basis for alliances between the union leadership and successive SANAA managers, since the principal goal of each is to secure sufficient revenue. As a result, rate increases normally transmit rapidly into pay increases; this in turn has strengthened political resistance to rate increases.

Table 2.12 analyzes SANAA's 1994 financial balance, showing how different subsidy elements contributed to the company's operations.[12] Current revenue was L 55 million compared with current expenditure, which totaled L123 million, including an estimated L 50 million of interest charges on the US$160 million in external debt on SANAA projects. The resulting L 68 million deficit was financed by depreciation charges of L12 million and revenue subsidies of L 56 million, including: the partial nonpayment of energy and chemical bills, and the non-payment of loan interest. In addition, SANAA received L128 million in capital transfers from the central government budget. Total subsides to SANAA represented 0.68 percent of GDP and were the equivalent of 334 percent of the company's current revenue.

[11] In early 1997, the electric company, ENEE, adopted a policy of charging SANAA for power and began billing approximately L 2 million monthly. When SANAA fell into arrears, the power supply to the administrative offices was cut and SANAA had to install a generator. However, it was deemed politically unacceptable to cut power to the water production and distribution systems.

[12] The SANAA revenue account presented here is based on the official account, but supplemented by a series of expenses that are not normally registered by SANAA, most notably debt interest.

Table 2.12 SANAA's Income, Expenditures, and Subsidies: 1994

	L millions[1] amount	Share of revenue (%)	Share of GDP[2] (%)
Current revenue	55	100	0.20
Current expenditure	123	223	0.45
Labor	29	53	
Energy	10	18	
Chemicals	8	15	
Debt interest[1]	50	92	
Depreciation	12	22	
Other costs	14	25	
Current balance	**–68**	**–123**	**–0.25**
Financing			
Depreciation	12	22	
Operating subsidies	56	102	
Nonpayment of energy	4	7	
Nonpayment of chemicals	2	3	
Debt interest paid by government	50	92	
Total revenue subsidy	**68**	**123**	**0.25**
Capital transfers	**128**	**233**	**0.47**
Total subsidy	**184**	**334**	**0.68**

Notes: 1/ The 3.5 percent average interest rate for 1989-95 was applied to the outstanding stock of SANAA-related debt.

2/ Nominal GDP in 1994 was L 2.71 billion. The year-end exchange rate was L 9.00 = US$1.00.

Source: Authors' analysis of data from SANAA, SECPLAN, and the Ministry of Finance.

Table 2.13 projects SANAA's subsidy needs over the next decade, under three scenarios for system performance.[13] The baseline scenario supposes that performance on water rates, cost efficiency, and urban coverage remain unaltered at 1994 levels. In this scenario, the 100 percent rate increase that was authorized in late 1995 is quickly eroded by inflation, staffing levels remain persistently high, and labor and capital productivity remain unchanged.

[13] This section owes much to a study conducted for the World Bank and IDB by Ian Walker and Raimundo Soto of ILADES, Chile, on the fiscal and equity impacts of the proposed water sector adjustment program in Honduras (I. Walker and R. Soto 1995). The assumptions used in this exercise are described in full in Walker et al. (1997).

Table 2.13 Projected Performance of the SANAA System: Three Scenarios (millions of 1994 lempiras)

	1994 real	1995 estimated	2000 projected	2005 projected
Baseline: no improvement in performance				
Real water rate (% of 1994)	100	100	104	104
Unaccounted for water (% of production)	50	50	50	50
Coverage (% of urban households)	83	83	83	83
Current income	55	55	73	93
Current expenditure	123	151	321	370
Current balance	−68	−96	−248	−277
Current balance (% of GDP)	−0.3	−0.3	−0.7	−0.7
Optimistic scenario: rapid improvement in performance				
Real water rate (% of 1994)	100	100	317	496
Unaccounted for water (% of production)	50	50	38	25
Coverage (% of urban households)	83	84	88	93
Current income	55	55	264	625
Current expenditure	123	151	309	352
Current balance	−68	−96	−45	273
Current balance (% of GDP)	−0.3	−0.3	−0.1	0.7
Intermediate scenario: moderate improvement				
Real water rate (% of 1994)	100	100	317	317
Unaccounted for water (% of production)	50	50	45	40
Coverage (% of urban households)	83	83	86	88
Current income	55	55	237	324
Current expenditure	123	151	310	355
Current balance	−68	−96	−73	−31
Current balance (% of GDP)	−0.3	−0.3	−0.2	−0.1

The following general assumptions apply in all scenarios:

Real interest rate on sector debt	3.5%
Depreciation rate on net capital stock	2.5%
Urban population growth	5%
Total investment 1995–2005	US$197million

Source: Authors' calculations. See Walker et al. (1997) for further details on the assumptions used in preparing this table.

Based on these assumptions, both costs and income would rise in line with urban population growth (projected at 5 percent a year over the next decade) and the system would register operational deficits of around 0.3 percent of GDP, rising to 0.7 percent in 2005. However, SANAA's cash flow would continue to be viable as long as the government continued to absorb the debt service burden. Net of debt service and depreciation charges, the operational deficit would remain stable and only slightly negative.

These projections highlight the point that the existing situation is an *equilibrium*, in the sense that it could continue as long as the financial arrangements under which SANAA makes no debt service contribution are maintained. On the other hand, if either the government or the financial agencies that fund the capital program do not allow this, then the revenue and capital subsidies to SANAA would dry up, coverage would drop behind population growth, and service quality would deteriorate. In this way, a crisis could be precipitated by a political decision not to tolerate a continuation of SANAA's poor performance.

The second scenario in Table 2.13 shows that if the system's performance were improved to normal levels, the subsidy would not be necessary. If average water rates gradually increased fivefold to the still moderate level of L 2.0 (US$0.22) per M^3, labor costs were halved by implementing normal levels of efficiency, and programmed capital resources were used relatively efficiently to increase coverage levels from 83 percent to 93 percent, the system could eliminate its deficit by the end of the decade and generate an operational surplus of just under 1 percent of GDP by 2005, even after covering its debt service and financing the establishment of new planning, regulatory, and technical assistance functions.[14] The third, intermediate, scenario shows that a more moderate rate increase and more moderate productivity gains would enable the deficit to be stabilized at around zero by 2005.

[14] This scenario has a provision for the cost of closing SANAA's operating systems (including redundancy payments and writing off the accounts receivable in the balance sheet) for their transfer to new operators. This cost would be comfortably recouped within a decade, as a result of reduced operating costs and revenue increases.

The Political Economy of Low-level Equilibrium

The Honduran water sector shows the classic symptoms of a low-level equilibrium trap in which the systems are financially crippled by low rates and high costs. As a result, unless the water utilities can negotiate heavy subsidies, the quality of service provision must suffer. SANAA is the operator that has most successfully negotiated subsidies, mainly capital grants from the central government. However, since the subsidy flow does not automatically rise when the system expands, the company loses money by expanding. Therefore, coverage tends to stagnate.

This tendency is reinforced by the fact that many production systems are gravity fed, so that the marginal cost of water is usually above the average cost because the cheapest sources are exploited first. This implies that the subsidy required for each new connection is higher than that on the existing stock of connections.

This is the fundamental reason why SANAA has failed to expand services to cover Tegucigalpa's marginal barrios. In this context, the SANAA-UNICEF project to construct private systems, which SANAA then supplies with water at the block rate, is a second best solution, made necessary by SANAA's inability to set water rates to reflect the marginal cost of incorporating these barrios into the principal network.

Those who gain from this status quo are the households that already have connections and receive heavily subsidized water services and the employees of the staff-heavy SANAA system, concentrated mainly in Tegucigalpa. The principal losers are the households that cannot get into the system because it is unable to expand fast enough; these are mainly concentrated in the marginal *barrios* of the cities, especially Tegucigalpa.[15]

In recent years there has been greater awareness of the fundamental inequity of denying the poorest *barrios* access to urban water systems, and of the potential for realizing very large welfare gains by expanding water

[15] Households within the system are the principal gainers from the status quo when its redistributional impact is analyzed as a zero sum game. However, since rates are not even sufficient to provide for maintenance programs and there is a limit to the amount of subsidy that can be extracted from the political system, the quality of their service is often low. In this sense, the status quo is a negative sum game. It is possible that households in the system would be net gainers from a feasible combination of rate increases and service improvements.

Box 2.4. The Welfare Gains from Escaping Low-level Equilibrium

Increased coverage of piped water creates welfare gains for households that previously had to get their water from other (more expensive and/or lower quality) sources, while increased rates imply losses for households that previously received their service for less than marginal cost and now have to pay more. However, to the extent that existing users are currently being supplied with water at an economic opportunity cost that is higher than their marginal willingness to pay for it, the reduction of their consumption will add to net social welfare. This is likely to happen if the increased rate is implemented through billing for metered consumption. For the present study, these effects were quantified on the basis of survey data and SANAA data for water demand. The details of the estimates are explained in Walker et al. (1997).

Households without piped water in Tegucigalpa at present consume on average only 3.7 m^3 per month and pay L 27 per m^3. If they had access to the piped water system they would pay only L 2 per m^3 and would consume an estimated 33 m^3. The estimated net welfare gain per new client incorporated in the system is L 440 per month, which includes the benefit from the reduced cost of the water they already consume, coupled with the consumer surplus arising from the large expansion of their consumption, made possible by access to piped water. All of this gain is received by the new client. For existing clients, the net welfare gain is L 16 per month. This is the sum of a net welfare loss for the consumer (who must now pay the full cost of his water, which was previously subsidized) and a net gain for SANAA (which previously supplied the water below cost).

If urban coverage in the existing SANAA systems were increased to 93 percent by 2005 (as per the optimistic scenario in Table 2.13), an estimated 29,000 households would benefit by about L 440 a month. If coverage stagnated at 83 percent, there would be 243,000 households with coverage, the net gain for each of these would be L 16 per month. The total net annual welfare gain is estimated at L 201 million, equivalent to 0.7 percent of 1994 GDP. These results are not very sensitive to the shape of the demand curve.

The reform of the sector aims to transform the performance of all the urban water systems in Honduras—not just those run at present by SANAA. As documented in the main text, the systems already in municipal hands, which account for 65 percent of urban connections, exhibit similar weaknesses to those of SANAA. If reform were to produce similar improvements in all the urban systems of Honduras, then the annual welfare gain would be about 2.1 percent of GDP.

service to these communities. A formal estimate of the welfare gains that could result from breaking out of the low-level equilibrium is presented in Box 2.4 and detailed in Walker et al. (1997). However, it has proven difficult to organize the political and legislative changes needed to make this possible. The vested interests aligned in defense of the status quo have proven stronger than the forces in favor of reform.

Prospects for Reform

Not surprisingly, in the face of the social, economic, and fiscal costs identified above, the sector's performance has given rise to growing discontent among the agencies that provide the capital to the water and sanitation sector. As a result, during the Callejas administration (1990–94), discussions began between the World Bank, IDB, and the government about reform of the sector. During the Reina administration (1994–98) these discussions intensified, crystallizing in a proposal by the government's *Comisión Presidencial de Modernización del Estado* (CPME) to strip SANAA of the operation of water systems, pass SANAA's nonmetropolitan systems into municipal ownership, and establish a private management contract for the metropolitan Tegucigalpa system.

This proposal was supported by the offer of a US$65 million sectoral adjustment loan, to be cofinanced by the World Bank and the IDB. This would have been Honduras' fourth sectoral adjustment program, following operations in agriculture, energy, and public sector modernization. The proposal was also reinforced by the IDB's reluctance to finance further investments in the water and sanitation sector until it was reformed. In 1996, however, the adjustment operation was dropped due to the government's failure to pass the necessary legislation.

In tracing the gestation of the reform proposal, a stakeholder analysis shows why the reform effort stalled. The failure was not simply one of political management. The original proposal suffered from two weaknesses that undermined potential support. First, the reform centered on rapid municipalization without establishing convincing mechanisms for strengthening the institutional capacity of the municipalities. And second, although the reform promoted the separation of system administration from political control via the introduction of private and mixed capital service providers, the regulatory provisions in the early drafts of the reform legislation were

weak, creating the fear that users might lose out when private service providers were introduced.

The Failure of Reform, 1994–96

In March 1994, the World Bank and the IDB agreed with SANAA on the broad outlines of a reform to separate the functions of operation and supervision through the municipalization of SANAA's systems. The government established a high-level commission to supervise the process. Soon afterward, the commission established a technical support group, comprising representatives of SANAA; the planning, health, and finance ministries; and the economic cabinet's economic policy analysis unit (UDAPE), which acted as a secretariat. This group supervised a series of World Bank and IDB-funded consultations to develop the reform proposal.

For the banks, the 1990 and 1991 local government legislation[16] provided a clear window of opportunity for the divestment of the SANAA systems, since it established the operation of water and sanitation systems as a local government function. In response, some municipalities had already requested the transfer of the systems from SANAA to municipal control. The SANAA manager, Jerónimo Sandoval, strongly supported the idea of transferring SANAA's systems to municipal control and by early 1994 had agreed to the transfer of San Lorenzo and Puerto Cortés. However, the local government legislation did not cancel SANAA's right to operate water systems, nor did it mandate the transfer of all systems. Therefore, further legislation was necessary.

The main elements of the legislative proposal that gradually emerged from this process over the following 12 months were: a framework law for potable water services that would close down SANAA and transfer all its systems to municipal control; the creation of a subsecretariat in the health ministry to handle sector planning and finance; the creation of a new national institute to supply technical assistance to the municipalities and to develop rural systems; and the creation of an independent regulatory agency to supervise both water quality and rate setting. Within this framework, municipalities would have been expected to join together in multicity water

[16] See Box 2.1.

companies in order to take advantage of scale economies in system administration (especially billing and financial management).[17]

However, in September 1994, just six months into the reform process, Sandoval was appointed head of the crisis-torn state electric corporation and was replaced at SANAA by Manuel Romero. Romero quickly made it clear that he was opposed to the disappearance of SANAA. He argued that SANAA's problems should be resolved though the development of an enterprise culture, and believed he could negotiate a radical reduction in staffing and more flexible work procedures with the union, and also persuade the political authorities of the need for a significant rate increase. The fact that SANAA's position could change so drastically following a change of manager reflects the lack of a national policy and the resulting personalization of sector strategy.

SANAA then proposed regionalization as an alternative to municipalization. The regionalization strategy was broadly similar to that being pursued by other water companies in Central America and the development of this strategy in Honduras was supported by Central America's regional body for cooperation among water companies, CAPRE, with technical assistance from the German development agency GTZ. Regionalization differs from municipalization in that it represents only an administrative decentralization of the national water company rather than passing ownership of the systems to other legal entities. In this context, SANAA began to resist the municipalization of the Puerto Cortés system and, as an experiment, opened a regional office in La Ceiba. As a result, from late 1994 onward, there were two reform strategies at work: the officially sponsored project, backed by the World Bank and the IDB, and SANAA's own regionalization strategy.

The conflict came to a head at a seminar held in mid-1995, where Romero showed considerable skill in lining up allies in support of his position. Among them were the Ministry of Planning, which was also slated for closure under the state modernization program and which headed the government's social cabinet; the mayor of Tegucigalpa, Oscar Acosta, who viewed the management of the metropolitan system as too big a task for the city government; and the existing body responsible for public service regulation (*Comisión Nacional Supervisora de Servicios Públicos*, CNSSP), which was reluctant to accept a reduced sphere of influence. The main supporters of the municipalization proposal were the Minister of the Presidency, Armando Aguilar Cruz (also secretary of the Presidential Commission for the Modernization of the State), and representatives of the mayors' association, AHMON. However, AHMON also expressed reservations about the reform proposal and demanded municipal control of the regulatory and sectoral planning agencies (AHMON 1995).

[17] The first and most general description of the proposed reform is laid out in the report by Chilean consultants Maximiliano Alvarez and Jorge Ducci (1994).

The opponents of the reform criticized the complexity of the proposed reorganization, questioned the wisdom of a rapid municipalization program, and argued that the closure of SANAA would damage rural water development and disperse a valuable central core of technical competence. They also highlighted the need for a two-thirds majority in Congress to close down SANAA, undermining the political viability of the scheme.

In the second half of 1995, the reform process entered a confused period as the different actors maneuvered for position and the government and the banks adjusted their proposal to take into account the issues that had been raised by critics of the original proposal. By the start of 1996, they had reached agreement on a significantly revised proposal under which the water systems would still be municipalized but SANAA would survive, assuming the function of policymaker for the sector and the responsibility for technical assistance and rural water development. This new scheme is outlined in Box 2.5.

The banks agreed with the government to accept just two conditions for the first tranche of the adjustment program: passage of the revised framework legislation, and the letting of a management contract for the Tegucigalpa system, where half of SANAA's connections and most of its worst inefficiencies were concentrated. The latter was a tactical move to side step Tegucigalpa's refusal to accept the system, with the intention of proceeding to a concession at a later date, following the Mexico City strategy (Foster 1996).

In early 1996, consultants were commissioned to redraft the reform legislation and analyze the financial feasability of a private management contract in Tegucigalpa. They concluded that such was the inefficiency in Tegucigalpa that a private manager could turn SANAA's existing US$1 million annual operating deficit for Tegucigalpa into a surplus of about the same amount, even after paying the contractor for his services and without raising rates. In May 1996, the government placed an advertisement in *The*

Box 2.5 Honduran Water Sector Reform Proposal, 1996

Organization of Service Delivery

- The water and sewerage systems owned by SANAA would be transferred to municipal ownership, free of debt, within two years.
- The law would explicitly permit and encourage the use of private agents and mixed companies to run the municipal systems through management contracts, leasing, or concessions. While it also allows for the direct operation of systems by municipal departments, it stipulates that provision should preferably be indirect.
- Transitional provisions would clear the way for a private management contract for the Tegucigalpa system, to be let directly by SANAA, subject to municipal approval

Regulation

- An independent regulatory commission would be created, with three commissioners nominated by the president. Two of the candidates would be taken from short lists provided by the colleges of civil engineers and economists. They would serve for five years (the presidential term is four years).
- There would be no national water rate, but the regulator would establish norms for calculating rates on a cost-plus basis using the model enterprise system, and no operator would be allowed a rate above full efficiency cost. The regulator would oversee contracts between municipalities and private agencies.
- Municipalities would be allowed to cross-subsidize within the water rates but not to use water revenues to fund other services.
- The regulator would be free to declare self-regulatory status for smaller systems.
- Access to public resources would be conditional on compliance with recommended practice on rate setting. This was conceived as a key regulatory mechanism to promote good performance and avoid undercharging by municipal operators.

Sector Strategy

- SANAA would become the agency responsible for strategic planning and technical assistance, and act as advisor to the Ministry of Finance on the allocation of public capital resources in the sector.

Rural Water

- SANAA would also retain responsibility for the development of rural water supplies and for the implementation of capital works on a regional scale.

Source: Authors' summary based on Rendon Cano (1996).

Economist magazine requesting expressions of interest from international firms.

Understandably, since most of the vested interests linked to the status quo were located in Tegucigalpa, the proposal to privatize the Tegucigalpa system provoked the strongest opposition yet to the reform project. SANAA manager Romero now publicly declared his hostility to the proposal (*El Heraldo*, June 17, 1996, and *El Nuevo Día*, June 21, 1996). He was supported by the leader of the SANAA staff union, Francisco Menjivar, who denounced privatization as a way to bring about enormous rate increases.

The SANAA union was able to make this claim because the reform camp had failed to state clearly at an early stage that the regulator's mandate was to control rates to efficiency levels. In fact, in early drafts of the proposed legislation, there was no provision at all for the regulatory control of water rates, due to the reluctance of the municipalities to be subjected to rate regulation (justified, spuriously, by the principle of municipal autonomy). This allowed opponents to scare-monger about the rate increases that would come with privatization. This was corrected in the July 1996 draft, summarized above, which was developed with the help of IDB regulation specialists. But by that time, the damage had been done.

Romero also produced a legal sophistry to block the idea of a private management contract for Tegucigalpa. He argued that SANAA's founding legislation does not allow the company to contract private agents to run its water services. This was debatable, since there is a general provision in Honduran law for administrative delegation, which includes delegation to private agents. Nevertheless, the banks accepted the idea that the management contract should be put on hold pending the passage of the framework legislation, which would make explicit the legality of management contracts, leasing arrangements and concessions, and allow SANAA directly to make management contracts during the transition period, with the agreement of the relevant municipality (see Box 2.5).

This episode was the *coup de grace* for the adjustment loan. The governments failure to replace Romero as the head of SANAA, even after he assumed a stance of public opposition, was the final blow to the credibility of Honduras commitment to sector reform. With other sector adjustment loans in jeopardy due to noncompliance with their conditionalities, Honduras IMF agreement in suspense due to missed fiscal targets, and an election year in the offing, the banks quietly deleted the Water and Sanitation

Sector Structural Adjustment Credit from their work programs and began to search for an alternative strategy to secure passage of the reform.

In the meantime, they focused their efforts on preparing future investment credits and technical assistance for municipally run systems. Although both banks continued to insist that the framework legislation was a sine qua non for future support to the sector, by the end of 1996 the legislation had still not been submitted to Congress, and the probability that it would be passed during the final year of the Reina administration seemed low.

A Stakeholder Analysis of the Failed Reform

Table 2.14 presents a stakeholder analysis, which identifies the forces in favor and against the reform. The analysis divides the actors into three groups: external actors, the government (including Congress), and other national actors. For each actor, the table shows their potential interest in the issue, the position they took, and the resources at their disposal to pursue their interest.[18] This analysis shows that support for the reform was weak and makes it clear why the adjustment operation failed to materialize.

Among the external actors, the government's failure to coordinate the external support to the sector allowed each development agency to promote its own line. There was strong support for the reform only from the two banks that proposed to cofinance the adjustment operation. USAID, which has long promoted municipalization, supported the transfer of SANAA's water systems to municipal control but had reservations about whether this should be mandatory rather than voluntary and opposed the idea of a national regulator nominated by the central government.

Other bilateral agencies such as GTZ and JICA effectively opposed the proposal, giving support to the alternative regionalization strategy promoted by SANAA. JICA provided grant funds to upgrade the La Ceiba system, giving credibility to the regionalization option and helping to dampen support for municipalization in that city. Since GTZ supports the association of Central American water companies, CAPRE, it has considerable moral authority in the field, so its absence from the reform camp was important. Similarly, although it cofunded the initial diagnostic study that set the stage for

[18] This analysis broadly follows the methodology developed by Crosby (1992 a, b, and c).

the reform, the Panamerican Health Organization, (PAHO) never declared its position.

The government itself was divided on the matter. The only government agency strongly committed to the reform was the Presidential Commission for State Modernization (CPME by its Spanish initials). It also enjoyed the support of the economic cabinet, which needed the balance of payments resources the operation would have released, and which subscribed to the general goal of improving the effectiveness of public infrastructure investment. But the reform was strongly opposed by SANAA, the Planning Ministry, and the existing regulatory agency, CNSSP, which wanted to defend its turf. The President of the Republic appeared to have no position on the issue and was known to have a high personal regard for the SANAA manager, Romero. When the President failed to intervene to resolve the differences of opinion within the government, the reform process simply disintegrated.

Table 2.14 also shows the weakness of national support for the project outside of government circles. In the preparatory phase of the reform, research studies were commissioned that underlined the inequity of the water situation. But in spite of the huge welfare gains that would have come from improving the sector's performance, no political entrepreneur emerged to mobilize support from households without water or with very poor service that suffer from the status quo. Instead, the *patronatos* (*barrio* committees) of the marginal urban sector remained indifferent to the debate on municipalization. Even the municipalities, purportedly the main gainers from the process, remained cautious, unsure of the consequences of taking on responsibility for their water systems, anxious about securing a guarantee of resources up front and reluctant to accept external regulation.

The leaders of the private sector (organized in the *Consejo Hondureño de la Empresa Privada*, COHEP), normally the most vociferous proponents of privatization initiatives, had nothing to say on the issue of water privatization. The SANAA employees' union, on the other hand, intervened effectively in the debate, persuading Congressional leaders that if they supported the privatization proposal they risked being held responsible for a drastic rate increase in an election year.

The absence of a strong national alliance in favor of the reform legislation was fatal. The only strong supporters of reform with real power were the banks because they held the purse strings on balance of payments sup-

Table 2.14 Stakeholder Analysis of the Reform of the Water Sector

Group	Interest in the issue	Position on reform	Resources available
External actors			
World Bank	Promotes reform in infrastructure sector; needs an adjustment operation for cash-flow reasons.	Strong support	Structural adjustment financing of US$30 million.
IDB	Finances the sector; needs adjustment operation for cash-flow reasons.	Strong support	Structural adjustment financing of US$35 million plus ability to withhold investment loans to sector.
International firms	Possible contracts for management and concessions; contracts for consultants.	Support	Ability to offer technical assistance to reform planning process.
Bilateral lenders	Finance the sector.	No general position; USAID supports voluntary transfer to municipal control but opposes both compulsion and the creation of a central government controlled regulatory agency. GTZ opposes; JICA has not declared	Financial resources and technical assistance.
CAPRE	Regional body for state water companies in C.A.	Opposed—promotes the alternative of regionalization	Technical assistance; capacity to legitimize the opposition to reform.
PAHO	Concerned with rural primary health.	None declared	Few

Table 2.14 (continued)

Group	Interest in the issue	Position on reform	Resources available
Government			
SANAA	Existing agency would lose operational functions, but would remain in charge of sector strategy.	Strong opposition—proposes alternative of modernization and regionalization.	Technical capacity; controls information; able to dedicate itself full time to maneuvering on the issue; strong personal relationship of manager Romero with the President; strong support from SANAA professional staff for Romero.
President	Ultimately responsible for defining government policy and for relations with the World Bank and the IDB.	Apparently not interested in the substance of the issue.	Ability to impose his decision within the Executive—but not on the Congress.
Presidential Commission for Modernization of the State (CPME)	Prime agency for modernization; sees sector reform as complementary to the general modernization program.	Strongly in favor—Secretary Armando Aguilar Cruz (also Minister of the Presidency) is reform's main public advocate.	Ability to influence the President; access to technical assistance from banks; but not influential with the majority Flores faction in Congress (linked to Reina faction).
Economic cabinet	Responsible for balance of payments management—needs adjustment loan to be approved. Also concerned with infrastructure efficiency	Though originally skeptical, coordinator Guillermo Bueso supported the reform, more to get the adjustment loan than because he supports the reform per se.	Ability to influence President.
Health Ministry	General responsibility for water and sanitation—special interest in rural systems and for technical norms.	No clearly defined position.	Presides in the SANAA board; moral authority on health-related impacts of sectoral reform.

Table 2.14 (continued)

Group	Interest in the issue	Position on reform	Resources available
Planning Ministry	The ministry responsible for public investment program at the time; since then, it has been abolished	Opposed—supported SANAA proposal for solidarity among bodies threatened with closure due to the adjustment program.	Presided in Social Cabinet which includes the Health Ministry, which in turn supervises the water and sanitation sector.
CNSSP	Existing rate regulator—defending its turf.	Opposed—supports SANAA proposal.	Technical capacity to question proposals.
Congress	Would have to pass framework law.	No declared position.	Can block the reform.
Other national actors			
Municipalities	Would take over system operation—potential for increased scope of activity, income, etc. But also high risks from taking over run-down systems that they are not well equipped to administer.	Diverse positions; AHMON broadly supports transfer of water systems to municipal control but wants a resource guarantee; would prefer that the transfer of systems were optional rather than compulsory; and opposes the creation of a national government-controlled regulator. The municipality of Tegucigalpa is not interested in taking over the capital's water and sewerage systems, which are half of SANAA's customers; many other municipalities are concerned about getting greater responsibility without resources.	Lobbying power; also, could block the reform by refusing to accept systems.

Table 2.14 (continued)

Group	Interest in the issue	Position on reform	Resources available
SANAA union	Loss of jobs and of opportunities for corruption.	Strong opposition to reform.	Lobbying power (influential with leading deputies in the controlling Flores faction of Congress); scare tactics on price rises; xenophobic rhetoric.
Users of SANAA system	Would face rate increases but could get improved service.	No clear public opinion on the matter.	If politicians fear that the measure is unpopular with existing users, who are relatively articulate with access to the media, this could cause a Congressional veto
Nonusers (marginal *barrios*)	Presently unable to get piped water due to low-level equilibrium trap.	No clear public opinion on the matter.	*Patronato* organizations have lobbying power.
National private sector (COHEP, *Cámaras de Comercio e Industrias*)	Fear of increased rates; opportunities for contracts.	No clear public opinion on the matter.	Very considerable lobbying power.
Political parties	Opportunity to win popularity / risk of losing popularity.	No important political group argued strongly for the reform because it was not viewed as a popular cause.	Influence of liberal and national parties is decisive in Congress.

port and on future loans to the sector. But recent experience has shown that the Honduran Congress will not automatically put the executive's macroeconomic needs above its own political expediency. Throughout 1996, Honduras' IMF agreement was in suspension following the Congressional decision to push through income tax cuts that increased the consolidated public sector deficit above the agreed upon ceiling. Inconvenient as it might seem, politicians, at the end of the day, are more interested in votes than in balance of payments support.

With this backdrop, the question is what should be done now to reform the sector? In the medium term, given the IDB's ability to offer large-scale finance for future water sector investments, its attitude will prove crucial. The IDB can insist on satisfactory progress in sector regulation, organization, and performance in return for new funding. In the past, when centralization was in fashion in the water sector, the IDB prevailed on SANAA to take over the systems of Tela, Juticalpa, and Ceiba in return for financial support.[19] By the same token, the bank could now force the transfer of systems to municipal control, if it chose to do so.

However, the prospects for reform would also be improved if the legitimate concerns expressed by some of the reforms' opponents were addressed. The two most controversial aspects of the reform were: the proposed rapid municipalization of all of SANAA's systems; and the absence of a sufficiently clear regulatory guarantee for the users (in the form of a rate ceiling).

The Debate over Municipalization

The rapid municipalization of service delivery is a central plank of the proposed reform. All of SANAA's water systems would be passed to the ownership of their respective municipalities within two years, free of debt (Rendón Cano 1996, Articles 13, 14, and 15). However, the latest (July 1996) version of the draft legislation, summarized in Box 2.5, leaves open the possibility that in some cases this might not happen, in which case SANAA would continue to run the systems (Ibid. Article 16). The inclusion of this provision so late in the drafting process was a tacit acknowledgement of widespread skepticism about the capacity of many municipalities to manage their water systems.

Nevertheless, in recent years, most political mobilization still favors the organization of water sector reform around the demand that SANAA systems be transferred to municipal control. This has happened mainly where SANAA systems have been in a state of collapse and where local political leaders have seized on the resulting popular discontent. In two cases, San Lorenzo and Puerto Cortés, these mobilizations led to the transfer of system administration to municipal control. The results of these initiatives and

[19] Interview with Luis Moncada Gross (June 1995).

SANAA's establishment of a decentralized regional office in La Ceiba as an alternative to municipalization provide lessons on the problems and possibilities of a national decentralization process.

Recent Experiences in Municipalization

Since 1993, in the context of the political and administrative decentralization process that followed the municipal legislation of 1990–91, SANAA has delegated responsibility for management, operation, and maintenance of water networks to local governments in San Lorenzo, Puerto Cortés, and Tela. In each case, the ownership of the system remained with SANAA. The first two cases were piecemeal initiatives in response to local political pressure for improvements in water supply, and in each case the system inherited by the municipality was in extremely poor condition. In Tela, the system was in better physical condition due to a recent investment program; the transfer was promoted by SANAA, apparently in a crude attempt to discredit municipalization.

The first delegation was made in February 1993 to San Lorenzo, a port city of 18,000 people located in southern Honduras. The city had serious problems with water sources and coverage was estimated at only 55 percent of households, with very poor frequency of supply (once per week during some parts of the year). Physical losses were estimated at 60 percent of production. SANAA supported the delegation process with a system survey, an inventory of fixed assets, and staffing decisions.

At first, the municipality had problems dealing with the commercial administration and technical difficulties with the pumping system. Nevertheless, following the organization of a technical unit within the municipality's engineering department, the municipality assumed full responsibility for the system. The municipal administration replaced an important water main, opened new wells, and incorporated new *barrios* into the system. Coverage rose to 80 percent; physical losses were an estimated 30 percent; and service frequency improved to alternate days. Funds for these improvements came from a L 3.1 million loan from Germany's KFW and from the 4 percent of National Port Authority and customs revenues that is granted to port cities under *Decree 72–86*.

In Puerto Cortés, a north coast port city with a population of 50,000, the municipalization of water services was part of the winning platform of

the Liberal Party in the 1993 mayoral elections. This followed protests (including closure of the main highway) when SANAA proved slow in repairing storm damage, which severely interrupted water services in 1993. In early 1994, SANAA approved the transfer. However, following the September 1994 appointment of Romero as general manager, SANAA reversed its policy. As a result, the negotiation took 16 months to complete and the transfer was delayed until April 1995. Puerto Cortés was required to cover L 1 million in severance pay of former SANAA employees, offset against the accounts receivable inherited from SANAA.

Following municipalization, a respected SANAA engineer was recruited as system manager and the World Bank and USAID provided sustained technical assistance, the latter through FUNDEMUN. Substantial improvements were achieved in production (up 40 percent) and service frequency (up from 12 to 20 hours a day). USAID provided a US$ 3 million loan (through the *Fondo Hondureño de Inversión Social*, FHIS) to build a new dam on the Río Tulian, further expanding productive capacity, and Puerto Cortés funded US$ 1.5 million of investment with its own funds (using the 4 percent of the National Port Aurthority and customs revenues that is payable to city governments where port facilities are located). The number of employees per thousand connections was reduced from 7.6 in April 1995 to 4.7 by mid-1996. The metering of industrial consumption rose from 102 functioning meters to 385, and in 1997 the municipality launched a program to establish 100 percent metering of residential consumption within two years. Illegal connections were halved, monthly billing rose from L 132,000 to L 520,000, and revenues as a share of billing increased from 61 percent to 103 percent, reflecting a successful effort to recoup overdue or unpaid accounts. On the basis of these successes, in 1997 Puerto Cortés secured Congressional approval for the definitive transfer of the system's ownership to the municipality.

In Tela, a north coast city of 35,000 inhabitants, SANAA invested L 6.4 million in water production, treatment, and distribution in the early 1990s, under the IDB's Four Cities project, raising coverage to 87 percent. However, the system still registered very large losses (60 percent), mainly attributable to the nonseparation of the old distribution system built by the Tela Railroad Company, and to nonexistent billing and collection.

In February 1996, SANAA unexpectedly and rapidly ceded administration to the municipality, which was not well prepared technically or administratively to assume it. The transfer was seen by many observers as a deliberate attempt to discredit the strategy of municipalization. The municipality recruited a relatively inexperienced manager who initially received technical assistance from FUNDEMUN on how to cut physical losses; FUNDEMUN recommended separating the Tela Railroad Company system and sectorializing the network[20]. However, a conflict arose when the tests for this work led to service cuts in the city. As a result, the FUNDEMUN contract was suspended and Tela began to depend on the SANAA regional office at El Progreso for support. These problems led to a meeting between the Ministry of Government, SANAA, AHMON, and the Municipality of Tela, where it was reportedly agreed that future municipalizations would be more carefully planned.

SANAA's Regionalization Strategy: The Case of La Ceiba

La Ceiba, a north coast city with 100,000 inhabitants and around 13,000 domestic connections, suffered problems similar to those of Puerto Cortés in 1993, when tropical storms damaged dams, storage tanks, and pipelines, severely disrupting services. Low rainfall in 1994 aggravated the crisis, when pumping from dry wells led to equipment damage. Thereafter, local pressure for municipalization began to grow. Alert to the danger of losing another major operation to municipal control, SANAA turned La Ceiba into a testing ground for the alternative strategy of regionalization.

In 1995, SANAA created a regional office in the city with autonomy in operations, including hiring, purchasing, and billing. All income generated by the La Ceiba system was to be retained locally to pay for the operation and maintenance of the system and to finance minor investments. The regional office also oversees rural water systems in the area of Atlántida, Colón, and Yoro, with the income generated by these systems remaining in their respective localities. However, the La Ceiba regional office has been characterized by managerial improvisation in the face of emergencies, and by early 1997 relations with SANAA headquarters in Tegucigalpa had not stabilized. SANAA still lacks a coherent operating model of regional decentralization.

[20] This refers to a process to separate the network into sectors that can be isolated from one another to control leakage.

SANAA has supported the La Ceiba initiative with a generous allocation of capital resources. Parallel to the creation of the regional office, SANAA obtained a Japanese grant of US$ 900,000 to install new wells, storage tanks, and pumping equipment to complement the gravity-run system. Although the investment program was clumsily managed and the funds spent considerable time on deposit awaiting implementation, the eventual result was a marked service improvement. The proportion of clients with 24-hour service rose from 6 percent in 1994 to 88 percent in 1996. Other performance indicators also registered marginal improvements: employees per thousand connections fell from 5.2 in 1994 to 4.2 in June 1996 and, in response to the incentive that income is now locally retained, monthly billing quadrupled to L 425,000 in mid 1996, up from L 111,000 in 1994. However, revenues rose by only 40 percent, barely ahead of inflation.

Meanwhile, the municipality of La Ceiba continued to receive technical assistance from USAID, through FUNDEMUN, to determine the technical and financial feasibility of muncipalization. The improvement in service under the SANAA initiative, however, has reduced local pressure for municipalization.

Lessons from the Municipalization Process

A definitive conclusion on the success of municipalization must await further implementation of the strategy and a review of performance in the medium and long run. But the experiences of San Lorenzo, Puerto Cortés, and Tela offer some important lessons on how to achieve success in the municipalization process.

First, the size of the municipality does not appear to be a decisive factor, within the range covered by these cases: in both San Lorenzo, the smallest of the three, and Puerto Cortés, the largest, the results are clearly positive. However, the administrative delegation of SANAA systems to the municipalities has been difficult to manage. It leads to a game in which each party seeks to unload responsibilities on the other and leaves open the possibility that SANAA might seek to cancel the arrangement once the principal problems have been resolved. The transfer of system ownership as contemplated in the proposed reform legislation, and already achieved in Puerto Cortés, is a much cleaner device.

Second, municipalization is most likely to succeed where there is strong local political support and where willingness to pay for improved services is high. Therefore, the priority in the decentralization program should be given to the cities where the problems are greatest and the potential for service improvement is highest. However, these conditions are most likely to exist when the system of production and distribution is in serious difficulty. This in turn implies that the availability of technical assistance and access to capital resources are likely to be important factors in the success of the transfer. In both San Lorenzo and Puerto Cortés, the interventions of bilateral and multilateral agencies proved important.

Third, managerial capacity is likely to be a key bottleneck in any form of a decentralization process in Honduras, where qualified professionals are scarce. Therefore, wherever feasible, municipalities should be encouraged to combine forces to exploit managerial and administrative economies of scale, and the pace of the reform process should be geared to the availability of the human and capital resources needed to make it a success, rather than to an externally imposed program of conditionalities.

This, in turn, implies that an adjustment operation is not an ideal vehicle for the reform project, since such operations require that irreversible change be demonstrated within a limited time frame. It is not easy to ensure irreversible change simply through framework legislation, and the implementation of sector reorganization may take longer than is normally permitted under an adjustment program. This sets up a tension between the need to design a program which is acceptable in terms of World Bank and IDB criteria for adjustment operations and the need to answer legitimate Honduran concerns about the risks of an overly precipitous process.

Fourth, in the absence of a properly defined national scheme for the allocation of technical assistance and capital resources, there has been a free for all in which the development agencies adopt one or more municipalities (as some aid agencies promote the adoption of a needy child). For example, USAID and the World Bank have supplied municipalized Puerto Cortés with technical assistance and capital resources, while JICA has supported SANAA's regionalization strategy through investments in La Ceiba. Some important municipalities have been able to take advantage of such programs, but the result is not necessarily conducive to a rational reorganization of the sector, especially since each agency uses the resources at its disposal to promote whatever model it happens to favor.

This experience highlights the need for a coherent national policy framework, tying the distribution of resources to an overall sector strategy. Generous injections of technical assistance and capital are likely to produce good results in service coverage and quality in the short run, regardless of the form of organization of service delivery, but these tell us little about the intrinsic virtues of the municipalization and regionalization options. The real test of both models is their ability to succeed when they are generalized over the long term, not just as demonstration projects with preferential access to technical and financial support.

Organization and Regulation of Service Provision: Key Issues for the Success of Reform

In the long run, the key indicators of success are those related to physical and financial efficiency rather than those related to a city's capacity to attract public investment funds. If decentralization were simply to reproduce at a local level the same systemic weaknesses that led to failure in the centralized model, the result might be a proliferation of mini-SANAA's with the familiar pattern of political, workforce, and user capture of system rents, stagnant coverage and poor service quality. In this sense, municipalization should not in itself be regarded as the central goal of sector reform.

Unfortunately, many supporters of the reform have seen it simply as part of the ongoing struggle to shift the balance of power between central government and the municipalities, and do not understand the importance of separating the functions of strategic planning, operation, and regulation for the reorganized sector to succeed. To have all of these functions under municipal control would simply reproduce in decentralized form the same systemic weaknesses that plague the existing centralized system. For this reason, there is a need to develop a working model for the municipal management of water services that protects the system from political, employee, or user capture of its rents, and provides the municipalities with technical assistance to manage the system efficiently. The following paragraphs detail the main aspects of such a model, as outlined in the latest version (1996) of the reform proposal.

System Organization

The proposed legislation provides that municipalities run their services either directly, through municipal departments, autonomous agencies or public corporations or indirectly, in the form of concessions, leases or management contracts with private agents or mixed capital companies jointly owned by municipalities and private investors (Article 33). The legislation also allows for intermunicipal associations in any of these forms (Article 35). However, it stipulates that indirect provision is the preferred form of service delivery that should normally be adopted unless there is no available agent or the cost of direct municipal service delivery is demonstrably lower (Article 37).

In this way, the legislation creates a strong presumption in favor of a clear organizational and financial separation of the water system from the rest of the municipality's operations. However, to turn this into a reality, it will be necessary to develop a model of independent provision that can be implemented in the major municipalities. To this end, during 1997, the IDB developed a pilot project in Puerto Cortés to establish a mixed-capital company, co-owned by the municipality and private investors, which would operate the water and sewerage system on a leasing arrangement, following the Spanish and French models.

Regulatory System

Regulation arrangements are central to the political viability of any plan for increased private sector participation. The lack of clarity on this issue was the main weakness of the proposal for a private management contract for Tegucigalpa.

Regulation should protect users from overcharging and also ensure that the expected return on the system's investment (the so-called quasi-rent) is not subject to capture by local politicians or system users, via pressure on the regulator to limit rates to unreasonably low levels. In the absence of such a mechanism, the fiscal costs of the publicly run systems will be high due to continued deficits, and it will be impossible to attract private capital to substitute for public resources and facilitate the expansion of coverage.

The 1996 draft legislation (summarized in Box 2.5) provides for a coherent national regulatory system. It contemplates the creation of a specialized three-person regulatory commission for water and sanitation services. Members of the *Comisión Nacional de Agua Potable y Alcantarillado Sanitario* (henceforth, the Commission) would be nominated for five years by the President of the Republic, with two members to be taken from slates submitted by the professional colleges of civil engineers and economists, respectively. To strengthen their independence from political interference and ensure regulatory continuity, the commissioners' five-year period of office would be different from that of the presidency (four years). The commissioners would themselves have different (overlapping) periods, rather than all being nominated at the same time. The Commission would be financed from the water rate charged to users by all system operators; its budget would be set by the national Congress.

The Commission would have the power to limit the maximum rate of any service provider to an efficiency level; the law would explicitly forbid the rate from including costs that result from inefficiency (Article 63). However, cross-subsidies would be permitted. Any rate change would require the Commission's approval and the operator would be required to supply the information necessary for its evaluation (Article 64). The definition of efficiency would be a cost plus or rate of return mechanism based on a model enterprise, similar to the Chilean model (Article 66). This is considered more appropriate for Honduras than a price cap due to macroeconomic uncertainty and the importance of guaranteeing a reasonable rate of return to private investors in the initial phase of private involvement.

The Commission would concentrate on the regulation of relatively large systems, delegating the regulatory function in rural areas to the municipalities. The Commission would also supervise compliance with contractual agreements among the government, municipalities, and private operators. In accordance with the principle of municipal autonomy, the municipalities would retain the freedom to set their own rates at levels below the recommended level. However, the rate regime of any municipality that takes loans from the central government to develop its water sector would be subject to regulation to ensure the financial viability of the loan.

Security of the Regulatory Environment

The regulatory provisions described above should provide a satisfactory basis for improved performance. However, they may not in themselves be sufficient to promote large-scale private investment in the sector. Potential investors are concerned not only with the content of the regulations, but also with the security of the regulatory environment. The letting of concessions to operate water services in the capital cities of Latin America has been constrained by the perception of high political risk, as illustrated most recently in Caracas.

Honduras has a poor international image for investment risk, due partly to macroeconomic factors (such as debt overhang) but also to a recent history of arbitrary action by the executive, legislative, and judicial authorities in matters involving transactions between the Honduran state and foreign companies (such as the privatization of state companies and the international letting of contracts for infrastructure development).

The reduction of this sort of risk depends on the overall process of political, administrative, and judicial modernization, which is still at an early stage. The design of a sectoral strategy in relation to the need for public investment resources should be based on reasonable assumptions about that process. In the short to medium term, the best prospects for private sector financial involvement in large-scale sunk investments are probably to be found in San Pedro Sula, where political risk may be perceived to be lower than in Tegucigalpa.

Conclusions and Recommendations

The Honduran water and sanitation sector's overall performance in recent years has been disappointing, and both the systems operated by the centralized *Servicio Autónomo Nacional de Agua y Alcantarillado* (SANAA) and those operated by municipal governments show similar weaknesses. The causes of poor performance are related to the existing organization of the sector, in a classic pattern of a low-level equilibrium. The roots of the problem lie, first, in the confusion between sector planning and resource allocation (which are strategic or political functions), on the one hand, and system operation (which should be isolated from political considerations), on the other.

This problem has two important manifestations. At a national level, SANAA both operates systems and plays a leading role in determining priorities for capital resources. As a result, the SANAA-operated systems (especially that of the capital city, Tegucigalpa) get more than their share of subsidized capital. More generally, the political control of the operating bodies (SANAA by the national government and municipal operators by the local authority) means that water utilities lack financial independence and are subject to the capture of system rents by users, politicians, and workers. This leads to undercharging, and results in inefficiencies in the scale of service provision (underexpansion, low coverage) and in the operation of existing systems (poor maintenance, low productivity, and generally feeble commercial systems). It also leads to a vicious circle of low credibility and low willingness to pay, because users—with reason—do not believe that revenues from the water rate will necessarily be used to improve services. The new evidence on willingness to pay presented in this study supports this conclusion.

The second factor contributing to this low-level equilibrium is the generalized failure of the regulatory function. No organization exists to define or defend the rights and interests of the actual and potential users of water and sewerage services. The regulation of water quality is ineffectual and the only form of economic regulation is that of the SANAA water rate, which is highly politicized and directly contributes to undercharging. Municipal systems are effectively unregulated.

Nontransparent subsidies make SANAA's financial balance sustainable, and the existing situation is an equilibrium in the classic sense of the term, in that it could continue indefinitely for as long as the political settlements that facilitate it are left in place. But there is no objective need for wholesale subsidies to the sector. Based on reasonable assumptions about improved performance, SANAA's systems could be self-financing within five years, and enormous potential welfare benefits would result from these systems breaking out of this low-level equilibrium.

The case for reform is therefore overwhelming, but the interests favoring the status quo are strong and well organized, so the political task of organizing reform is considerable. A stakeholder analysis of the failed Water and Sanitation Sector Structural Adjustment Credit, supported jointly by the World Bank and the IDB during 1994–96, highlights the problems of reform and illustrates the limited capacity of adjustment finance to secure change in the absence of a clear national policy decision.

However, the reform's failure was not simply one of political management. The reform proposal itself suffered from important weaknesses, which undermined its support. It made a central principle of municipalization, but failed to address the poor performance of many existing municipal systems and placed insufficient emphasis on the need to protect system operation from political interference. Most municipal governments in Honduras suffer from credibility problems similar to those of the central government, so a proposal that did not address these issues was bound to be unconvincing.

In addition, as a result of the municipalities' reluctance to be subjected to a national regulatory agency, the reform proposal did not adequately address the issue of regulation until it was too late. Early drafts of the legislation concentrated on linking municipalities' access to capital resources to good financial performance. The emphasis was on the use of incentives to avoid undercharging, but there was no regulatory provision to prevent overcharging. This led to a setback when the municipality of the capital city, Tegucigalpa, refused to take over its water system, which accounts for half of SANAA's operation, and in response, a plan to privatize the management of the metropolitan water system was hurriedly tacked on to the reform. In the absence of a clear regulatory guarantee for users, the reform's opponents had a field day with the prospect of a private operator levying exorbitant rates.

In the final draft of the reform proposal most of these issues are satisfactorily resolved. The law creates a presumption in favor of indirect forms of service provision in which the opportunities for political capture are minimized, and the regulatory arrangements are well conceived. The reform effort should now proceed on parallel tracks at the national and local levels. The approval of the framework law and creation of the national regulatory, planning, and technical assistance bodies should be complemented by the development at the municipal level of a workable model of indirect service provision. This could first be applied in existing municipal systems and could be extended to the SANAA systems once the law is passed.

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