12 Water and Sewerage

Private activity in water and sewerage grew significantly in 1990–2001 as 43 developing countries awarded 203 projects with private participation, attracting investment commitments of almost $40 billion.

Annual investment in water and sewerage projects with private participation fluctuated strongly over the 12-year period (figure 12.1). A few transactions explained the peaks, such as the concession of the water utility in the city of Buenos Aires, Argentina, in 1993; that of the utility in Manila, Philippines, in 1997; and the privatization of the largest water utilities in Chile in 1999. The number of projects rose gradually to a peak in 1999, then fell (figure 12.2).

Although private participation in infrastructure was spread among a large number of projects and sponsors in the region, the biggest projects and the top sponsors accounted for most of the investment commitments (boxes 12.1 and 12.2).

Introducing private participation has been more difficult in water and sewerage than in other infrastructure sectors because of broad resistance to raising tariffs to cost-recovering levels, which increases the risk of long-term investment in sector assets. Another factor has been decentralization. In most countries water and sewerage services are under the jurisdiction of local or provincial governments, which often have little experience with private participation in infrastructure.

Concessions dominated private activity in water and sewerage, reflecting the focus on transferring management of existing assets to the private sector while keeping legal ownership of those assets in the public sector (figure 12.3; table 12.1). Concessions of water utilities have been attractive to governments because they transfer operational and investment responsibilities—as well as the associated commercial and investment risk—to the private sector. Because these transactions involve private investment in distribution as well as bulk supply, they maximize potential efficiency gains. But they also require substantial government commitment and efforts to create a credible regulatory environment for private investment. Greenfield projects, mainly for constructing bulk water treatment facilities, were the second most common type of private participation in the sector. Most of the concessions and greenfield projects were awarded in Latin America and the Caribbean (83 projects) and East Asia and Pacific (46).

Management and lease contracts were also common, accounting for 20% of water and sewerage projects. Such contracts were intended to improve the performance of public utilities while leaving the public sector primarily responsible for new investments. Management and lease contracts have been attractive in countries where the private sector perceived investment risk as particularly high or where investment requirements for network expansion were small and emphasis was placed on improving efficiency. Management and lease contracts were awarded mainly in Europe and Central Asia (21 projects) and Sub-Saharan Africa (7).

Latin America and the Caribbean had the most private activity in water and sewerage, followed by East Asia and Pacific (figure 12.4; table 12.2). The growth of the sector in these two regions coincides with the opening of other infrastructure business to the private sector and, particularly in Latin America, progress toward establishing legal and regulatory institutions that promote private participation.

In Europe and Central Asia, the third most active region, private activity in the sector was focused on management and lease contracts. But most of the investment went to a few concessions. In Sub-Saharan Africa private activity was limited mostly to management and lease contracts.

The Middle East and North Africa had a small but growing amount of private involvement in water and sewerage. In addition to four water projects, three projects involving water and electricity utilities were awarded in the region, including the large Casablanca concession in Morocco. In South Asia private activity in the sector started in 2000 with one greenfield contract for a water system in a new industrial area in India.

Private activity steadily spread across countries in 1990–2001, though investment remained fairly concentrated (figure 12.5). In the early 1990s two countries accounted for 100% of the annual investment in water and sewerage projects involving the private sector, while in 2001 the top five countries captured 75%. Over the 12-year period the five attracting the most investment were Argentina, the Philippines, Malaysia, Chile, and Brazil (table 12.3). When investment is expressed in per capita terms, however, smaller economies—Uruguay and Trinidad and Tobago—move into the top five (table 12.4). The main water project with private participation in Uruguay was the water and sewerage concession for the province of Maldonado, while in Trinidad and Tobago it was a desalination treatment plant. Brazil led in projects (32), followed by China (24), Mexico (21), the Czech Republic (16), and Argentina (12).

Among segments, the 75 projects involving vertically integrated water and sewerage utilities (potable water and sewerage networks) dominated investment (figure 12.6; table 12.5). In addition, 28 projects involving vertically integrated water companies (excluding sewerage services) were awarded to private operators during the period.

The preference for awarding integrated water utilities reflected government objectives in the sector. Water utilities in most developing countries not only faced a need to expand capacity and distribution networks but also had high levels of inefficiency and unaccounted-for water. Projects detaching the expansion of network capacity from the management of distribution networks can exacerbate system inefficiencies (for example, expanding water treatment capacity can increase unaccounted-for water by raising water pressure in the network). Because concessions of vertically integrated water utilities encourage better management and maintenance of the entire network, they are usually more effective in tackling sector problems than projects dealing with a specific part of the network.

Second most common were projects involving stand-alone potable water treatment plants. The 33 such projects were implemented through greenfield contracts with state-owned utilities. Eight stand-alone water distribution projects were awarded. Stand-alone sewerage projects were also awarded, most of them in countries with the well-developed water infrastructure and increasing wealth needed for municipal governments to extend sewerage services. But stand-alone sewerage plants were rare, perhaps because of the difficulty of unbundling sewerage services from water supply: sewerage requires water, and sewerage services cannot be cut off for nonpayment without also cutting off water supply.

The other 29 projects bundled water and sewerage services in different ways. Most common among these were contracts involving water distribution and sewage collection (14 projects).

Box 12.1

Largest Water and Sewerage Projects with Private Participation in Developing Countries

Among the 10 largest water and sewerage projects with private participation in developing countries in 1990–2001, most involved vertically integrated water utilities in Latin America and the Caribbean and East Asia and Pacific (see table). These projects accounted for 56% of the investment in private water and sewerage projects during the period.

Top 10 Water and Sewerage Projects with Private Participation, Developing Countries, 1990–2001

Project	Investment (2001 US$ billions)	Country
Aguas Argentinas	4.9	Argentina
Manila Water and Wastewater (west zone)	4.4	Philippines
Indah Wastewater Urban Sewerage[a]	2.9	Malaysia
Empresa Metropolitana de Obras de Santiago de Chile (EMOS)	2.5	Chile
Manila Water and Wastewater (east zone)	1.9	Philippines
Sabah Water Supply	1.6	Malaysia
Aguas Provinciales de Santa Fe	1.2	Argentina
Izmit Water Supply Project	1.1	Turkey
Bucharest Water	1.0	Romania
Buenos Aires Province Water and Sewerage[b]	1.0	Argentina
Total	22.4	

a. Canceled in 2000.
b. Canceled in 2001.
Source: World Bank, PPI Project Database.

Top Sponsors of Water and Sewerage Projects with Private Participation in Developing Countries

A few major companies dominate private participation in water and sewerage in developing countries. The top five in 1990–2001 accounted for 45% of the private projects in the sector, and these projects for 64% of the investment during the period (see table). These top five were involved mainly in concessions (30 projects) and management or lease contracts (27), more rarely in greenfield projects (17) and divestitures (7).

Many contracts were awarded to consortia made up of local companies (often operating in other industries) and one or two experienced international companies. A breakdown of the major players by region highlights the predominance of international companies. Except for Benpres Holdings, the top sponsors were international players operating in several regions.

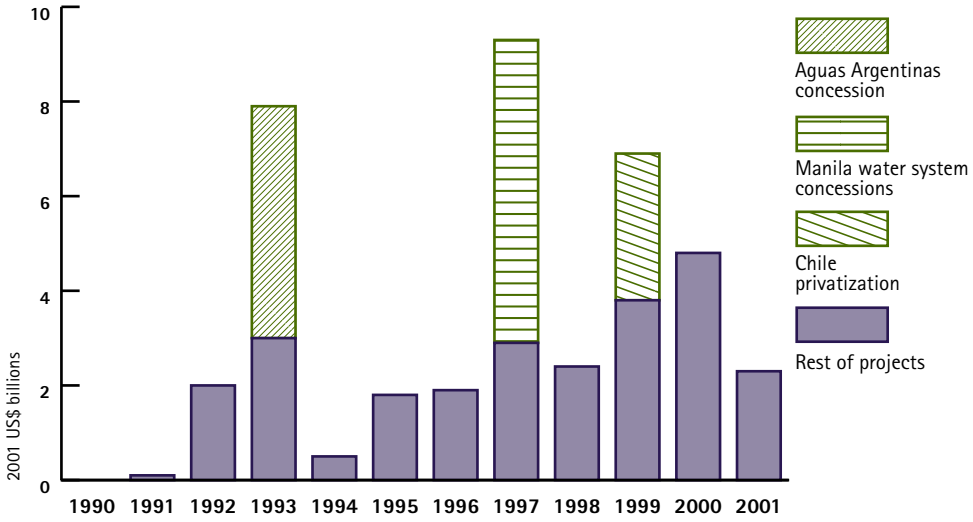
Top Five Sponsors of Water and Sewerage Projects with Private Participation, Developing Countries, 1990–2001

			Projects by region					
Sponsor	Investment[a] (2001 US$ billions)	Projects	East Asia and Pacific	Europe and Central Asia	Latin America and the Caribbean	Middle East and North Africa	South Asia	Sub-Saharan Africa
SUEZ	18.1	44	16	14	10	2	0	2
Sociedad General de Aguas de Barcelona	10.6	14	0	0	14	0	0	0
Benpres Holdings	4.4	2	2	0	0	0	0	0
Thames Water	3.3	13	8	2	3	0	0	0
Vivendi	3.1	25	5	11	6	1	0	2
Total[b]	25.5	91	29	27	28	3	0	4

a. Investment from all sources in projects in which sponsor had an equity participation of 15% or more.
b. Data may not sum to totals because projects can be associated with more than one sponsor.
Source: World Bank, PPI Project Database.

Figure 12.1

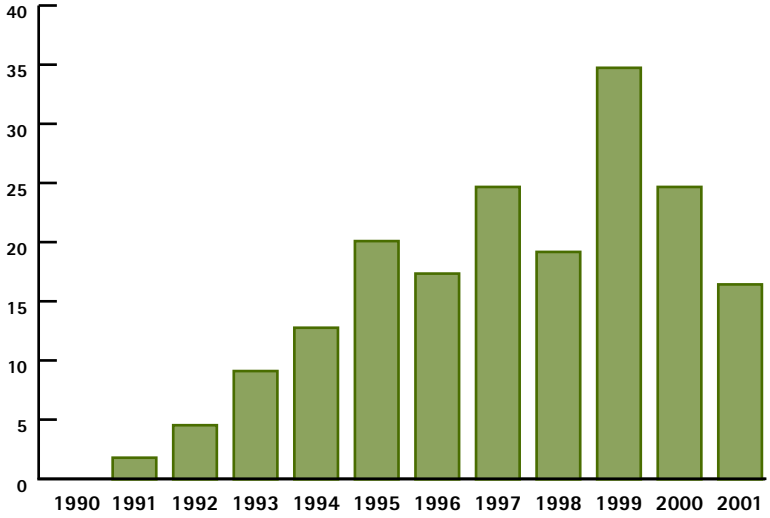
Annual Investment in Water and Sewerage Projects with Private Participation, Developing Countries, 1990–2001*



* Note: Data refer to investment commitments.
Source: World Bank, PPI Project Database.

Figure 12.2

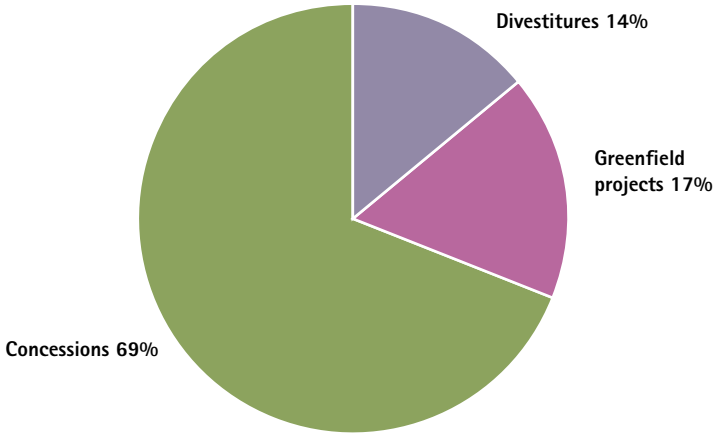
Water and Sewerage Projects with Private Participation by Year of Financial Closure, Developing Countries, 1990–2001



Source: World Bank, PPI Project Database.

Figure 12.3

Cumulative Investment in Water and Sewerage Projects with Private Participation by Type, Developing Countries, 1990–2001



Source: World Bank, PPI Project Database.

Total $40 billion

Table 12.1

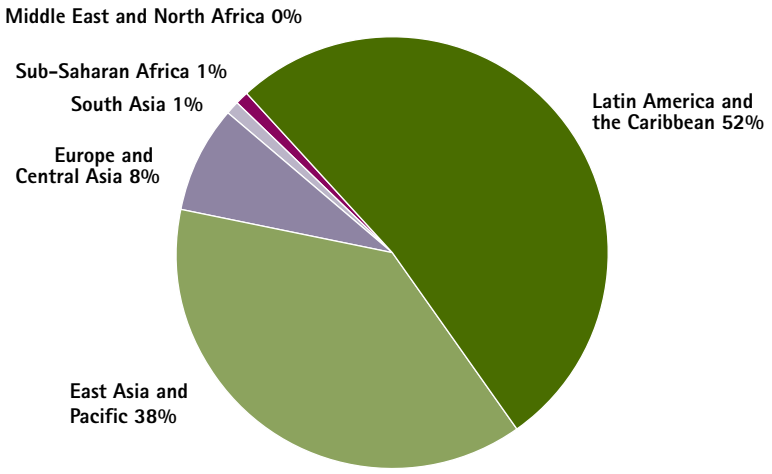
Water and Sewerage Projects with Private Participation by Type, Developing Countries, 1990–2001

Type of private participation	Projects
Concessions	90
Divestitures	16
Greenfield projects	56
Management and lease contracts	41
Total	203

Source: World Bank, PPI Project Database.

Figure 12.4

Cumulative Investment in Water and Sewerage Projects with Private Participation by Region, Developing Countries, 1990–2001



Source: World Bank, PPI Project Database.

Total $40 billion

Table 12.2

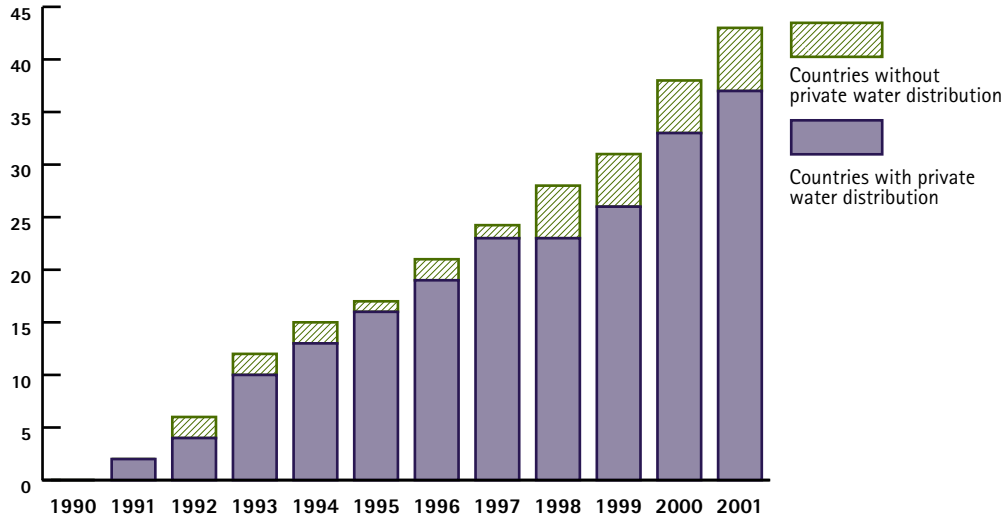
Private Participation in Water and Sewerage by Region, Developing Countries, 1990–2001

Region	Countries	Projects	Investment (2001 US$ billions)
East Asia and Pacific	7	51	15.3
Europe and Central Asia	12	37	3.3
Latin America and the Caribbean	15	100	20.7
Middle East and North Africa	3	4	0.1
South Asia	1	1	0.2
Sub-Saharan Africa	5	10	0.2
Total	43	203	39.8

Source: World Bank, PPI Project Database.

Figure 12.5

Cumulative Number of Developing Countries with Private Participation in Water and Sewerage, 1990–2001



Source: World Bank, PPI Project Database.

Table 12.3

Top Five Developing Countries by Cumulative Investment in Water and Sewerage Projects with Private Participation, 1990–2001

Country	Investment (2001 US$ billions)	Investment as a share of developing world total (%)
Argentina	9.6	24
Philippines	6.4	16
Malaysia	6.1	15
Chile	4.2	11
Brazil	3.1	8
Total	29.4	74

Source: World Bank, PPI Project Database.

Table 12.4

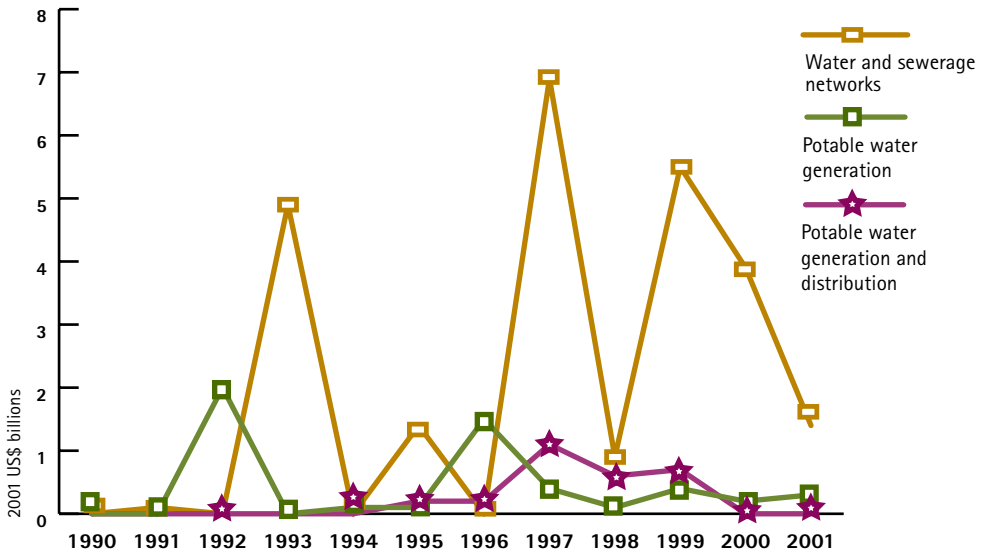
Top Five Developing Countries by Per Capita Cumulative Investment in Water and Sewerage Projects with Private Participation, 1990–2001

Country	Per capita investment (2001 US$)	Total investment (2001 US$ billions)
Chile	271	4.2
Malaysia	257	6.1
Argentina	255	9.6
Uruguay	111	0.4
Trinidad and Tobago	94	0.1

Source: World Bank, PPI Project Database.

Figure 12.6

Annual Investment in Water and Sewerage Projects with Private Participation by Segment, Developing Countries, 1990–2001



Source: World Bank, PPI Project Database.

Table 12.5

Private Participation in Water and Sewerage by Segment, Developing Countries, 1990–2001

Segment	Projects	Investment (2001 US$ billions)
Potable water and sewerage networks	75	25.1
Potable water treatment	33	5.2
Water treatment and distribution	28	2.9
Sewage collection and treatment	10	0.4
Sewage treatment	20	3.1
Water distribution	8	0.0
Others	29	3.0
Total	203	39.8

Source: World Bank, PPI Project Database.