

*To Mary Jane and Stokes for starting the process, Paige and Cyrus for  
putting up with it, and Eugenie for making it wonderful*

# Private Capital Flows and the Environment

Lessons from Latin America

---

*Edited by*

Bradford S. Gentry

*Yale Center for Environmental Law and Policy,  
Yale University, USA*

**Edward Elgar**

Cheltenham, UK • Northampton, MA, USA

## 7. Public-Private Partnerships – Costa Rica and Mexico

### Chapter Overview

While the need for public and private actors to work together is great in a privatization, it is even more critical in the growing area of 'public-private partnerships'. As shown in Table 7.1, a wide range of relationships can exist between public and private actors. Many of them fall into the broad definition of public-private partnerships, from coordinated sharing of resources to achieve individual goals (as in the tourism example below), through jointly owned and operated businesses (such as those used to supply water services in some municipalities), to infrastructure concessions with substantial public and private involvement (such as the Juárez waste water treatment case also described below). Such partnerships are being sought where the public and the private sectors share goals which neither can achieve alone. Sometimes this is because the public sector lacks the resources or expertise necessary to address a social need. Sometimes it is because a socially desirable investment is too risky or not profitable enough for private parties without some form of government support.<sup>1</sup>

Two major examples of environmentally driven public-private partnerships are considered in this chapter.<sup>2</sup> One is a sector analysis – the Costa Rican tourist sector; the second is a case study of a public-private partnership gone wrong, but which may still be recovered – the water treatment system in Juárez, Mexico. In addition, some information is offered on the opportunities created by a specific regulatory program – 'joint implementation' in the Costa Rican energy sector.

While public-private partnerships will never capture the amounts of private capital flows going into more traditional types of investments, they are an important vehicle for bringing the energies of the public and private sectors to bear on addressing certain types of priority environmental issues.<sup>3</sup>

Government sponsored business opportunities have attracted foreign direct investors into tourism, energy and water projects

Table 7.1 Allocation of Responsibilities Between the Public and Private Sectors Across Different Structures for Providing Goods and Services

Structures Being Used to Deliver Goods and Services	Allocation of Responsibility Between the Public and Private Sectors				
	Frameworks	Operation	Financing	Ownership	Oversight
Fully Governmental	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■
Non-Contractual	Protests	■■■■■	■■■■■	■■■■■	■■■■■
	Dialogue	■■■■■	■■■■■	■■■■■	■■■■■
	Coordinated asset use	■■■■■	■■■■■	■■■■■	■■■■■
Contractual	Study	■■■■■	■■■■■	■■■■■	■■■■■
	Design and Build	■■■■■	■■■■■	■■■■■	■■■■■
Public-Private Business	Operate	■■■■■	■■■■■	■■■■■	■■■■■
	Manage	■■■■■	■■■■■	■■■■■	■■■■■
	Jointly Owned Company	■■■■■	■■■■■	■■■■■	■■■■■
Privatization	Concession	■■■■■	■■■■■	■■■■■	■■■■■
	Build, Operate, Transfer	■■■■■	■■■■■	■■■■■	■■■■■
	Sale of Government Business	■■■■■	■■■■■	■■■■■	■■■■■
Fully Private	Build, Operate, Own	■■■■■	■■■■■	■■■■■	■■■■■
	Public equity	■■■■■	■■■■■	■■■■■	■■■■■
	Concessional Loans	■■■■■	■■■■■	■■■■■	■■■■■
Non-Contractual	Grants	■■■■■	■■■■■	■■■■■	■■■■■
	Covenants	■■■■■	■■■■■	■■■■■	■■■■■
	Coordinated Asset Use	■■■■■	■■■■■	■■■■■	■■■■■
Fully Private	Dialogue	■■■■■	■■■■■	■■■■■	■■■■■
	Enforcement	■■■■■	■■■■■	■■■■■	■■■■■

Note: ■ indicates primary responsibility with public sector; □ indicates primary responsibility with private sector.

The effort by the Costa Rican government to use its base of national parks in order to attract tourists has been extremely successful.<sup>4</sup> The country's tourist industry grew at an annual rate of between 20 and 35 percent per year between 1988 and 1993, with annual revenues rising from US\$135 million per year to over US\$660 million. The growing interest in 'Eco-tourism' drove this expansion, with 55 percent of the visitors to Costa Rica stating that 'nature' was the country's major strength as a tourism destination. FDI in lodgings and other tourism-related activities exceeded US\$500 million.<sup>5</sup>

Foreign investors have also been attracted to Costa Rica's land preservation and power sectors as a result of the government's decision to participate in so-called 'joint implementation' activities. Now in a pilot phase under the Climate Change Convention, these efforts are aimed at achieving the greatest reductions in greenhouse gas emissions at least cost. They do so by taking advantage of two characteristics of the climate change issue. First, since climate change is a global problem, reductions in greenhouse gases (such as carbon dioxide) anywhere in the world should help reduce the problem. Second, more reductions in greenhouse gases can be achieved for less money in certain locations than in others.<sup>6</sup>

In the case of Costa Rica, this has led to the following types of investment opportunities. A large emitter of carbon dioxide in the US - such as a coal-fired power station - is under an obligation to the US government to reduce its emissions by an amount of, say 100 tons per year. To do so in the US would cost some amount, say US\$10 million, but for the same US\$10 million, a 2000-ton per year reduction could be achieved in Costa Rica through investments in increased efficiency of energy use, non-fossil fuel-based energy sources (such as wind or hydro) or the protection of forested areas which trap carbon dioxide thus removing it from the air. Under the joint implementation program, the US company is given a regulatory credit against its obligations in the US for its investments in Costa Rica which achieve these more cost-effective reductions in carbon dioxide.

Of the first seven pilot projects approved under the US joint implementation initiative, three are in Costa Rica. Two involved the setting aside of a total of over 20 million hectares as forest preserves or for sustainable forest practices. The other is a 20-megawatt wind power project (Plantas Eolicas, S.A.) with an expected capital cost of US\$30 million.

In Juárez, Mexico, foreign investors have clearly signaled both their desire for additional waste water treatment capacity and their willingness to

work with government officials to make it happen. This remains true even though no agreement has yet been reached with government authorities – either with the foreign developer/operator chosen for the project, or with the multinational manufacturing companies operating production facilities in the area. Yet to be determined are the level and timing of financial commitment to the project by both private and public stakeholders. The macroeconomic context of Mexico's peso crisis has made debt enormously expensive, thereby slowing the process. At issue locally are micro-level project barriers impeding effective cooperation between private foreign investors and municipal authorities. Finally, a lack of transparency and confusion about priorities, exacerbated by the debt crisis, has weakened the commitment of all parties to the original public-private vision for the provision of water treatment in Juárez.

*The anticipated environmental benefits are being realized*

Overall, the investment growth in the Costa Rican tourism sector has had a positive impact on the environment because they have led to effective land preservation measures. Over 41,000 hectares of private reserves have been created, half of which are owned by hotels and all of which were financed with dollars generated by tourism.<sup>7</sup> The country's system of national parks – established with public money – has been strengthened considerably, both by making greater resources available for land protection, as well as by reducing the need for protection through improvements in local economies.<sup>8</sup>

The joint implementation initiative has also benefitted the local and world environment. Over 20 million hectares have been set aside as carbon sinks, with the resulting benefits to biodiversity and other environmental values. The wind project is expected to save almost 100,000 tons of carbon dioxide emissions each year, while adding clean and needed extra generating capacity to the Costa Rican grid.

In the case of Juárez, there is no doubt that improvements in local water quality would result from construction and quality operation of the types of treatment systems being discussed. Whether they will be sufficient to address the region's waste water problem, will function as planned, or ever be built depends upon overcoming multiple hurdles to joint public-private sector action.<sup>9</sup> This is particularly true in the international border area as it has become a testing ground for the effectiveness of the environmental side agreements to NAFTA. One of the barriers to proceeding with the project has been the reluctance of private and public parties on the US side to proceed with anything less than 'state-of-the-art' treatment, even though monies to do so are scarce and even partial treatment would constitute a

vast improvement over the current situation.<sup>10</sup>

*However, opportunities for increased resource use facilitated by the public-private partnerships can themselves cause environmental damage*

At the same time as environmental benefits are being obtained, making more resources available for human consumption may also create additional environmental burdens. At a minimum, this can include local siting burdens caused by wind farms or sewage sludge treatment facilities. More generally, making more electricity or clean water available may spur increased development with broader impacts. The possible impacts of this broader development are clear in the Costa Rican tourism sector. The resulting increases in human traffic have stressed areas around the protected areas. In particular, a survey of 1,135 lodgings around nature reserves concluded that only 111 of them were ecologically responsible under criteria developed by Seglau.<sup>11</sup> In fact, the best lodge identified only scored at 72 percent of the ideal performance. Smaller lodges tended to have better performance. The lodgings with the best scores were owned by Costa Ricans, although a majority of the top 20 lodgings were owned by foreigners. Fortunately, the overall impact of the lodging industry on the environment has not been too great given the relatively small size of most of the facilities.

*Governments can have both positive and negative impacts on the attractiveness of joint projects for private investors*

Clearly, none of the foreign direct investments made in these cases would have happened without the active support and involvement of government parties. Tourist facilities rely on the existence of the national parks and supporting infrastructure. Joint implementation only leads to investment as a result of the regulatory and public relations benefits accorded by the source country government (in this case the US) and a welcome reception in the host country.

At the same time, the failure to bring the Juárez treatment facility on-line is due, in part to the peso crisis in 1995, but also to the inability of various governmental actors to develop effective working relationships among themselves and with the international investors already present. Realizing the potential benefits of joint public-private action faces a number of barriers from the outset. In order to work together, bureaucrats and businessmen have to overcome their mutual mistrust and different working practices. While public officials speak of the need to leverage government assistance off the back of private initiative, many quail at the notion of

using public money to help companies make a profit. At the same time, many people in business, particularly in the financial sector, view attempts to work with governments as a complete waste of time given the delays, politics, level of disclosure and unpredictability involved.<sup>12</sup>

*Governments and businesses work together best when goals are clearly understood, roles clearly allocated and responsibilities consistently met in a timely fashion*

When governments and businesses move out of their traditional roles (regulator/regulatee, customer/service provider) and try to work together as partners, problems often arise because their individual goals are not clearly stated or understood. Governments tend to focus on addressing social needs through a process which is open and politically defensible. Private sector parties tend to focus on making profits as quickly and efficiently as possible (including acting in a socially acceptable manner), without opening too much room for competitors. Obviously, these individual goals can often be in conflict. Understanding and structuring the relationship so as to reflect these different goals, as well as to address disputes when they arise, is vital.

Similarly, the roles to be played by the public and private parties need to be clearly allocated to the parties best able to fulfill them. Clarity is important to avoid surprises and disputes. Allocation of responsibilities to parties according to their ability to perform is important to the effective functioning of the joint enterprise. The easiest allocation situations are those like tourism and joint implementation where the government specifies the resources it is willing to make available on what terms, and then monitors performance (including environmental) as with any other private activity. In many ways, these relationships are not fundamentally different from the investment support programs offered for the agricultural and manufacturing sectors as described earlier in this chapter.

In the case of water treatment in Juárez, Mexico, perhaps the biggest barrier to joint action is the lack of institutional capacity at the level of the local public sector. Municipal entities in the Mexican border city do not have the capability currently of metering water use effectively and have not demonstrated the ability to collect fees consistently. Given such hindrances, it is no surprise that potential private partners are hesitant to commit. This type of problem is particularly acute where money, technical know-how and other resources are unevenly distributed between potential partners. Such uneven distribution is compounded when the joint venture involves entities from an industrialized country and a developing one.

Even fully private joint ventures are among the most difficult businesses

to make successful. Those difficulties are compounded — but can be overcome — when public and private actors are the joint venture partners. Private partners will object to government interference in operations and oversight requirements creating operational inefficiencies. Public partners will be concerned about the project's accountability to the public being compromised and about businessmen cutting corners in the process of delivering the services or taking out too much profit. The only way to overcome these barriers is to start the process with as much clarity as possible, but, even more importantly, for each party to develop trust in the other. Trust is earned only through reliability. This means each party must consistently meet its responsibilities in a timely fashion. Such dependability provides the basis for private investment in a longer-term involvement. If the government's goals, personnel or rules change constantly, there will either be no investment, or only if the investment and return can be recovered quickly. In addition to consistency, timeliness is critical. Businesses are driven by the time value of money. Government officials usually face pressures driven by different schedules, such as ensuring the process is politically defensible and accountable to the public constituency. Effective business partnerships with the private sector will require a different sense of timing, hence procedures, by government actors.

### Section 7.1 The Tourism Industry in Costa Rica

*By Jorge Rivera in collaboration with Esteban R. Brenes and Gabriel Quijandria.*

*Editor's abstract* In the last decade, the economic importance of tourism in Costa Rica has doubled. It now constitutes nearly eight percent of GDP. Its growth was spurred, in part, by government support (begun in 1985) for the development of the industry. About half the estimated billion dollar investment in tourism comes from abroad.

Costa Rica's superlative park system is both cause and effect of the huge inflows of tourist dollars in the country. Some new parks have been established in part to draw tourists, and tourism has helped pay for privately owned reserves that act as buffer zones ringing some parks. On the downside, the huge surge in tourism damages the very resources that draw visitors to begin with. Only 8 percent of all lodging in Costa Rica rated well in terms of responsibility towards the environment in one recent study.

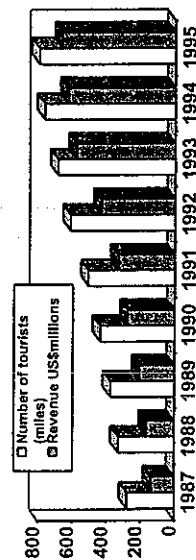
Underlying Costa Rica's natural attractions for tourists is an extensive support structure put in place by the government, including perhaps the best protected areas system in Latin America, funding for tourism advertising in US and European markets, establishing the necessary infrastructure to bring tourists to parks, and recent initiation of an eco-certification system for tourist

establishments. This support system is compromised, however, by a mostly ineffective regulatory and administrative structure governing natural resource use and an often shifting policy about the scale of development the tourism industry should adopt.

### General Description

Although it is only recently that Costa Rica has become a well-known tourist destination, the tourism industry has nevertheless been important in the Costa Rican economy since the 1970s. At that time, tourism became the third largest source of income behind banana and coffee exports.<sup>13</sup> The number of tourists rose and fell during the 1970s and 1980s, affected mainly by civil wars and economic difficulties in other Central American countries. However, since 1986, there has been a consistent annual increase of visitors entering the country. There were 277,861 visitor arrivals in 1987, with a steady increase to a peak of 792,287 in 1995 (see Table 7.2 and Figure 7.1).

Figure 7.1 Number of Tourists and Revenues, 1986-95



In the 1970s and early 1980s, most of Costa Rica's tourists were from other Central American countries, particularly Nicaragua and Panama. However, in recent years, the consumer profile has changed. In 1994, three quarters of all tourists from abroad came from North America and Europe.<sup>14</sup> They have more purchasing power and stay longer than their Central American counterparts.

The increase in the level of revenues generated during the past years has made the tourism industry the most important sector of the Costa Rican economy. In 1995 tourism represented approximately 27.1 percent of the country's total exports and 7.8 percent of the gross domestic product (GDP) while this level in 1986 was only 12.2 percent of the total exports and 3 percent of the GDP.<sup>15/16</sup> Tourism has also become a significant source of employment, directly creating 62,056 new jobs between 1985 and 1993.

Indirectly, it has created an additional 60,313 new jobs. These jobs represented 12 percent of the country's labor force in 1993.<sup>17,18</sup>

Table 7.2 Tourists and Revenues, 1986-95

Year	Number of tourists	Percentage of growth	Revenue (US\$Millions)	Percentage of growth
1987	277,861	6.5	136.3	2.7
1988	329,386	18.5	164.7	20.8
1989	375,951	14.1	206.6	25.4
1990	435,037	15.7	275.0	33.1
1991	504,649	16.0	330.6	20.2
1992	610,093	20.9	431.1	30.4
1993	684,005	12.1	577.4	33.9
1994	761,448	11.3	625.7	8.4
1995 <sup>1</sup>	792,287	4.1	661.3	5.7

Note: Preliminary data.

Source: Instituto Costarricense de Turismo, *Plan Operativo, 1996: Diagnostica sobre la situacion del turismo en 1994*, p. 5.

Why has Costa Rica achieved such international success in the tourism industry? Costa Rica enjoys a geographic location near the US -the largest tourism market in the world; - its biodiversity has been extensively studied; possesses an excellent endowment of natural resources; and is seen as a peaceful and democratic country. Nonetheless, modern tourists are more demanding, particularly on the services and infrastructure they expect to enjoy in a trip. In this respect Costa Rica has not yet become a world class tourist destination, owing to deficient infrastructure, high cost of capital, inadequate land transportation services, a bureaucratic banking system, declining domestic demand because of high prices, and an ambiguous government strategy for the development of tourism (J. Barborak, Costa Rica, February 1996).

### Private investments

The steady increase in tourism demand, together with the passage of a 1995 law providing government support to tourism development, has spurred the growth in the industry. About half of this investment comes from foreign sources. Estimates regarding the amount of foreign direct investment in tourism vary greatly. Costa Rica's Central Bank recognizes that it has underestimated total FDI in tourism at US\$150 million. The Tourism Ministry estimates the amount to be more than US\$400 million. Others suggest that the tourism industry attracted more than US\$1 billion in total

investment during the first half of the 1990s.<sup>19</sup> Whatever the exact figure, growth has been tremendous, particularly in the hotel industry, which generated the largest investment inflows. The number of hotel rooms grew to almost 23,000 by the end of 1994.

#### Future trends

Many experts argue that the peak in tourism has already passed because of the accelerated increase in prices, lack of adequate infrastructure, and inconsistent rules, deficient government marketing campaigns and the rebirth of other tourist destinations in the region – Guatemala, Nicaragua, Cuba, Panama and Belize. According to a recent article published in *Actualidad Económica*, a well-known magazine in Costa Rica:

serious studies of the tourism industry in Costa Rica shows that it is in crisis ... since 1992 the growth of arrivals has experienced a big reduction ... in 1992 the rate of growth of the tourism demand was 25 percent while between 1993 and 1995 it was less than 10 percent.<sup>20</sup>

Table 7.3 Foreign Visitation to Costa Rican National Parks, 1993–95

	1993	1994	1995	% Diff. 1993–94	% Diff. 1994–95
January	46,745	52,315	28,297	11.9	-45.9
February	48,500	50,012	29,378	3.1	-41.3
March	48,816	54,644	30,151	11.9	-44.8
April	35,085	38,914	25,095	10.9	-35.5
May	20,977	20,529	13,371	-21.0	-34.9
June	20,472	21,478	13,532	4.9	-37.0
July	38,878	36,467	19,910	-6.2	-45.4
August	36,983	40,629	23,200	9.9	-42.9
September	16,454	11,238	10,407	-31.7	-7.4
October	21,070	12,092	13,011	-42.4	7.6
November	27,925	16,077	18,973	-42.4	18.0
December	42,437	23,891	26,415	-43.7	10.6
Total	404,342	378,286	251,740	-6.4	-33.5

Source: Instituto Costarricense de Turismo, Departamento de Recursos Naturales, May 1996.

The price increase has affected all the public and private services related to the industry. In September 1994 for example, the Ministry of the Environment increased the walk-in entrance fee to national parks for

foreign tourists by more than 1,200 percent, up to US\$15. This measure was very controversial and considerably reduced the number of foreign tourists visiting national parks (see Table 7.3). In March 1996 the park entrance fees for non-residents were lowered to US\$6.<sup>21</sup>

On the other hand, some analysts believe that the reduction of the rate of demand growth is a normal process.<sup>22</sup> They believe this new trend is creating a more competitive environment in which better prepared businesses will displace the former improvised ones. Mauricio Ventura, President of the National Chamber of Tourism believes:

Accelerated rates of growth are not sustainable ... 9 percent per year of growth is very good. It represents twice the rate of growth of the tourism industry worldwide!<sup>23</sup>

#### Government policies and environmental 'content' of tourism private investments

Government's role in influencing the environmental impact of tourism investment has not been clear. On the positive side the most important government actions that have driven private investments to be eco-friendly, are:

1. *The creation, maintenance and development of one of the best systems of protected areas in Latin America.* This has been by far the most important source of the nature lover's destination image of Costa Rica.
2. *The partial finance of some promotion campaigns that position Costa Rica as an ecotourism destination.* Through the ICT (Instituto Costarricense de Turismo – the Costa Rican Tourist Authority) the government has cooperated with the private sector to promote the country by:
  - continued participation in international tourist expositions;
  - advertising campaigns in magazines (National Geographic, Rolling Stone) and US TV channels (Discovery Channel);
  - establishing a 1-800 phone number that answers the questions of potential travelers in the US.
3. *The construction of very basic infrastructure (but not its maintenance) that has provided access and public services (energy, telecommunications and drinking water) to most of the protected areas and other natural attractions.*
4. *The design of a sustainable indicator system for the industry, and an eco-certification system for tourism businesses and attractions.* These

systems will be implemented during 1995.

On the other hand, the most important aspects of the government policy and actions that have driven private investments to have a negative impact on the environment and natural resources are:

1. *The lack of clear environmental regulations and administrative procedures.* Perhaps with the exception of the protected areas' laws, the legal framework that regulates the use of natural resources and the environment is very confusing and poorly enforced (see analysis in Chapter 2). For example, environmental impact studies (EIS) of tourism facilities were not legally required until 1994. Moreover, as of March 1996 there is no specific guide that determines which aspects should be studied in the case of tourism projects. It is also important to note that the new 1994 environment impact regulations did not require the participation of a tourism expert in the commission in charge of giving approval to those studies.

Since the early 1970s regulations for controlling water, air, and soil pollution have been sanctioned; however, the government has not enforced them. Moreover, during the last 20 years there have been repetitive negotiations between the government and the private sector to delay the enforcement actions. The problems related to lack of appropriate legislation and/or enforcement, are the main causes of political environmental risk that have been driving investors away from creating new businesses or taking actions to reduce the negative environmental impact of their investments. In fact, the business leaders who really have tried to be environmentally friendly complain about the poor performance of the government agencies in this respect (M. Skelly, Private Investor, Costa Rica, March 1996; Alvaro Umaña, Costa Rica, April 1996).

2. *The lack of a clear development and promotion strategy.* On one hand, big private companies have lobbied the government to encourage big facilities and promotional campaigns to position Costa Rica as a large scale tourist destination.<sup>24,25</sup> On the other hand, conservationist and environmentally proactive entrepreneurs consider that strategy a mistake, since most of the studies about the preferences of travelers have shown that tourists come to Costa Rica looking for nature-oriented activities and small-scale facilities.<sup>26</sup>

The result of this debate is a government strategy that fluctuates according to the level of pressure and the party in the government. For example, during the first half of the 1990s large-scale facilities were promoted. Thus now it is becoming increasingly apparent, particularly

given current enforcement of the country's environmental regulations, that the large-scale developments of the first half of the decade have had a disproportionate and deleterious impact on natural resources when compared with the traditional small-scale facilities.

#### *History of the national park system and the growth of tourism investments*

The national park system created by the Costa Rican government has been by far the most important element determining the rapid emergence of tourism in the country. In fact, the success of most tourism investments and business is closely related to the existence and growth of Costa Rica's national parks (R. Lizano, San José, Costa Rica, April 1996).

During the late 1960s, it was argued by some of the leading Costa Rican scientists that there was a need to protect some unique areas from the increasing deforestation occurring in the country. At that time the government development policies strongly favored the use of land for agriculture and cattle raising.<sup>27</sup> Nevertheless, the support of international agencies helped those first conservationists to establish the National Park Service (NPS) in 1970.<sup>28</sup>

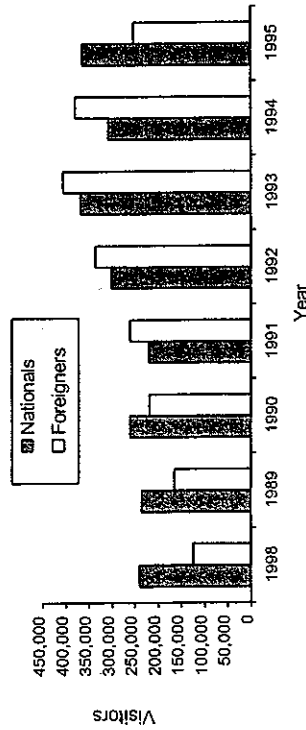
The first national parks created by the NPS were established with the goal of protecting unique habitats. This strictly conservationist approach was strongly opposed by farmers, ranchers and loggers who saw the NPS as an 'anti-development' agency run by tree-huggers. Politically this was a very difficult situation because the NPS was under the direction of the Ministry of Agriculture. Yet, the international support received to finance the creation and management of the national parks helped to sustain the initial efforts of the NPS.

In 1986, the recently elected government adopted a 'sustainable development' strategy with the purpose of balancing the demands for development and conservation. A key component of this strategy was the creation of a new Ministry of Natural Resources. This Ministry assumed responsibility for the NPS and other conservation agencies that were under the direction of other ministries. Improving the management of the recently created national parks for lucrative and non-destructive activities, such as tourism, became a priority of the new Ministry of Natural Resources.<sup>29</sup> Simultaneously, the ICT was financing tourism marketing campaigns in the US and Europe. It also began implementing the 'Law of Tourism Incentives', sanctioned by Congress in 1985. The main incentives given by this new law were preferential interest rates, 10-year income tax exemption for companies operating outside San José, duty exemption on imports, accelerated depreciation and a six-year property tax exemption for hotels.<sup>30</sup>

The response of the private sector to this policy was slow during the first

years because most local businesspeople lacked the expertise to invest in tourism companies. During the very first years, however, visionary entrepreneurs from abroad established new travel agencies. Later as the number of visitors was constantly increasing (see Figure 7.2), the need for accommodations and other services near national parks spurred a 'boom' in tourism-related investments.

Figure 7.2 Visitation to the Costa Rican National Park System



Source: Instituto Costarricense de Turismo, Departamento de Recursos Naturales, 1996.

In just a few years, investors created hotels, lodges, restaurants, and other tourism related businesses around the country (see Table 7.4). Although the Law of Incentives was reformulated in 1992, eliminating the tax exemptions and leaving only duty exemption on imports, it has been decisive for investors since 1985. Owing to this law, imports amounting to about US\$137 million were exonerated from tariff payments between 1985-94. Lodging establishments were responsible for 66.3 percent of these imports: car rentals 16.7 percent and the rest went to travel agencies, restaurants, airlines and aquatic transportation.<sup>31</sup>

The success of the national park system and the growth of investment and tourists to Costa Rica has been synergetic. The creation of several national parks can be attributed, at least partially, to the need to create more tourism opportunities. Environmental education and research have also received a boost from nature tourists. With partial funding from the ICT, visitor centers and trails have been built at most of the parks, with interpretative displays of the local natural resources (R. Lizano, Natural Resources Department, Instituto Costarricense de Turismo, San José, Costa Rica, April 1996).<sup>32,33</sup> Conservation activities and park management have also received increased funding from ICT. In fact, ICT paid for the elaboration

of the management plans of all the national parks and reserves. Today, the ICT and the Ministry of the Environment are working together on the implementation of such management plans.

Table 7.4 Growth of Registered Tourism Business Travel Agencies in Costa Rica

Year	Registered Rooms*	Travel Agencies
1986	5,270	96
1987	5,017	99
1988	5,289	104
1989	5,456	109
1990	6,713	121
1991	7,196	145
1992	8,549	173
1993	9,479	208
1994	10,794	248
1995	n/a	n/a

Note: The number of lodging rooms, including non-registered lodging establishments, was 22,792 in 1994.

Source: Instituto Costarricense de Turismo, *Plan Anual Operativo 1996: Diagnóstico del Turismo en 1994*, p. 17.

Tourism has also contributed to the creation and financing of more than 41,000 hectares of private-owned reserves. These private reserves border the national parks and act as buffer zones, diverting both visitor and development pressure.<sup>34</sup> For example, the Monteverde Conservation League, a non-governmental organization, has received approximately 50 percent of its funds from tourists who visited Monteverde Private Reserve and made contributions for its protection. These contributions allowed the League to purchase an additional 13,000 hectares of land around 1992.<sup>35</sup>

Moreover, the success of tourism in terms of revenues, and creation of new jobs and investments, has guaranteed the existence and growth (see Box 7.1 and Table 7.5), of arguably the best managed national system of protected areas in Latin America. This is even more important in a country that at the same time has one of the highest rates of deforestation in Latin America at 2.9 percent per year.<sup>36</sup>

#### Box 7.1 The Monteverde Cloud Forest Preserve<sup>37</sup>

The Monteverde Cloud Forest Preserve sits astride the Tilaran Mountain Range which forms part of the continental divide in Costa Rica. Despite its

*Box 7.1 cont.*

relatively remote location, the preserve has become one of Costa Rica's most popular destination sites for tourists and is exemplified as a successful private protected area.

*History* The Tropical Science Center of San José (TSC), Costa Rica has owned and managed the preserve since its inception in 1972, and together with the recently formed Monteverde Conservation League has successfully brought about expansion to its present size of 10,000 hectares. By 1992, the League had also purchased an additional 13,000 hectares of land around the preserve. The expansion of the preserve was made possible thanks to donations by external organizations including among others the World Wildlife Fund and the New York Zoological Society. The preserve began as a quiet, secluded refuge for a small group of Quakers from Alabama, who after being jailed for refusing to register for the draft in the US in 1949, relocated to Costa Rica. The Quakers bought 1,500 hectares and set aside 554 hectares of Cloud Forest that formed the original tract of the current preserve.

*Tourist visitation* 471 people visited the preserve in 1975, and most were scientists and bird watchers. However, the revenue generated from the minimal entrance fee (US\$2.30 at that time) was not sufficient to cover operating costs. Nor was there sufficient lodging in the area to handle the growing number of tourists. Between 1978 and 1989, visits increased in number more than 25 percent per year. However, this growth pales compared to that observed from 1989 through to 1992 when visits grew 41 percent yearly. Since then, growth has leveled out, with the number of visitors remaining more or less constant at about 50,000 a year. On average 80 percent of visitors to the preserve come from abroad.

*Finance* The steady stream of visitors makes up the bulk of the preserve's annual revenues, which in 1993 amounted to US\$841,029. That year the expenditures were US\$772,215, leaving US\$68,813 of profits after covering general administration costs, upkeep of physical facilities, protection activities and trail maintenance. The financial success of the preserve has enabled the TSC to branch out into other areas, particularly in developing its environmental education program. Setting aside all the educational activities, it is interesting to note that in 1993, entrance fees (\$374,000) more than covered administration costs (US\$208,000), and maintenance and protection expenses (US\$129,000). In other words, tourism carried out on a small portion of the preserve is capable of supporting the cash flows required to maintain the integrity of the Cloud Forest's 10,000 hectares.

*Ecological sustainability* To avoid deterioration of the fragile Cloud Forest ecosystem, the TSC has adopted the policy of limiting the number of

*Box 7.1 cont.*

people allowed on the 20 km of visitors' trails at one time to 100. It is also worth noting that the area in which tourists are allowed to hike is only a small section of the whole reserve. The most common problem has been trail erosion and some wildlife disturbance. Nevertheless, if acute deterioration is observed in a particular area of the preserve, trails are closed until the damage is dealt with properly.

*Economic impact on the community* The preserve's economic influence on the community is substantial. The neighboring towns of Monteverde and Santa Elena have approximately 30 well-established lodgings and numerous snack shops and restaurants. A recent survey indicated that a total of 96 percent of the tourists stayed in local hotels for an average of two nights at double occupancy and patronized local restaurants and stores for an average of three days. The vast majority of all stores, lodgings, and restaurants in the area are locally owned. It was also found that foreign tourists who came to Costa Rica specifically to visit Monteverde spent an average of US\$1961 on their trip of which some US\$1131 was actually spent in the country.

*Source:* Alyward, B. et al. (1996), 'Sustainable Ecotourism in Costa Rica: The Monteverde Cloud Forest Preserve', Biodiversity and Conservation, 5, 315-43.

Table 7.5 Growth of System of Protected Areas in Costa Rica

Year	Protected areas (PA)	Territory (hectares)	Percentage of PA
1970	5	7,4409	7.3
1971-75	14	140,882	13.1
1976-80	38	613,296	56.5
1981-85	55	885,968	81.6
1986-90	65	1,035,598	95.4
1991-5		1,094,414	100.0

*Source:* Servicio de Parques Nacionales, Ministerio del Medio Ambiente.

*Environmental performance of tourist businesses*

Until recently the small size of most of the tourism businesses and facilities in Costa Rica generated few serious environmental problems. However, recent studies and expert observation have made clear that some environmental problems have begun to arise (J. Barborack, Costa Rica, march 1996).<sup>38</sup> The Manuel Antonio National Park is a clear example of

what is also happening at other major tourist attractions.<sup>39</sup> This park has suffered uncontrolled tourist visitation. Moreover, in its buffer zone uncontrolled development of tourism facilities has occurred. These situations have caused the following environmental problems:

- overcrowding,
- water pollution,
- trail erosion,
- littering,
- landscape deterioration,
- changes in wildlife behavior, and
- deterioration of the flora.

Even though most of these problems are not severe, they are a clear sign that "green" consumer preferences are not enough to guarantee good environmental performance from businesses (Liliana Arrieta, April 1996, Costa Rica).

During recent years there have been three comprehensive studies that have measured the environmental performance of tourism businesses.<sup>40,41,42</sup> One of these studies (Segleau, 1995; See note 11) classified Costa Rican lodging businesses in terms of ecologic, economic and cultural criteria. The ecologic aspects involved in the classification system were:

- design and construction method,
- management of solid wastes,
- management of waste water,
- use of energy,
- wildlife conservation,
- supply of preventive ecological information.

This 1994 study identified only 111 ecologically responsible lodging businesses in the whole country, 8 percent of the total lodging facilities.<sup>43</sup> Foreigners owned 38 percent of these lodges. Among the ecologically responsible lodges, only 49 percent were able to be granted the 'certification' because they had been implementing important actions designed to have a positive environmental and social impact (see Figure 7.3 and Table 7.6). It is also important to note that the best lodge identified in this study had a performance that was only 72 percent of the ideal performance under the certification system designed.

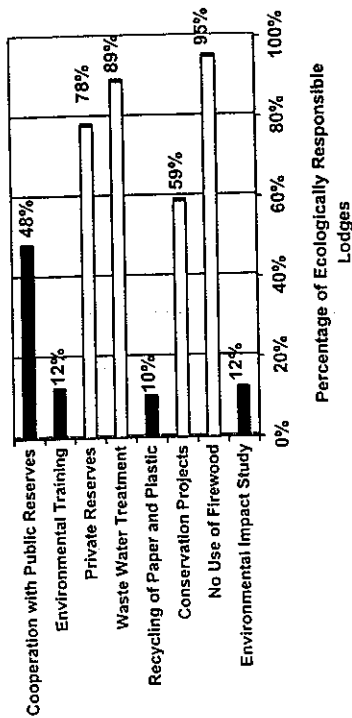
Segleau also found that the hotels with the best score were owned by Costa Ricans, although a majority of the best 20 were owned by foreigners. In addition small lodgings outperformed larger ones (see Table 7.7).

Table 7.6 Environmental Performance of 'Ecologically Responsible' Lodging Businesses

Positive and negative actions	Percentage
1. Landscape	16
+ Special design and building method for reducing negative impacts	
- Generation of serious negative impacts during the construction	4
* Most of the lodgings were relatively small and therefore their impact on the landscape were small	
2. + Elaboration of environmental impact studies	12
3. Use of wood during the construction	
-/+ Facilities built mainly with wood	49
- Use wood from endangered species	34
4. - Introduction of exotic flora in gardens	88
5. + Participation in conservation projects	59
+ General activities	36
+ Environmental education	16
+ Reforestation of more than 1,000 trees	15
6. Solid waste management	
+ Recycling of food waste	59
+ Recycling or not buying of aluminum cans	72
+ Recycling of glass bottles	52
- No recycling of paper	90
- No recycling of steel cans	90
- No recycling of plastic	94
- Very bad disposition of food waste (disposal in rivers, feed for wildlife, and so on)	8
7. Energy management	
+ No use of firewood	95
- No energy saving practices	52
8. Reserves and national parks	
+ Possession of private reserves bigger than 5 hectares	78
+ Use public parks and reserves for tours	51
+ Use guides to give natural information during tours	97
- No cooperation public parks and reserves	52
- No measures to avoid trail erosion	59
9. Environmental education for employees	
- No formal training to employees	88
- No informal training to employees	60

Note: Ecologically responsible lodgings represent only 8% of the facilities in the country.

Figure 7.3 Environmental Performance of 'Ecologically Responsible' Lodging Businesses



Note: Ecologically responsible lodging represents only 8 percent of the facilities in the country.  
Source: J. Segleau, 1995; See note 11, pp. 69-102.

In 1994, the research foundation of the University of Costa Rica<sup>44</sup> designed an eco-certification system, for the ICT, that was applied to a statistically representative sample of Costa Rican lodgings. This study took into consideration similar environmental criteria as the study described above and found that only 5 percent of the businesses in the sample complied with the minimum requirements to be eco-certified,<sup>45</sup> approximately the same result found by Segleau.

Another investigation implemented during 1994-95 studied the environmental performance of Costa Rican travel agencies whose principal customers are incoming tourists (see Tables 7.8a and b).<sup>46</sup> This study classified travel agencies using among others the following criteria: (i) tour guides' characteristics; (ii) level of dedication to nature-oriented tours; (iii) size of tourist groups; (iv) destinations.

*Factors motivating environmental content in the tourism industry: customer preferences, natural resources, and investment*

Most of the hotels and travel agencies emphasize nature-oriented activities for tourists such as fishing, rafting, boating, bird and animal watching, diving, national park walking tours and hiking. This emphasis responds to the strong 'green' preferences of the visitors to Costa Rica.

For instance, a survey conducted by the ICT and the Commission of the European Community in 1993 revealed that 62 percent of the visitors to Costa Rica showed a marked preference for nature-related activities. Another survey conducted during 1995-96 also showed that natural attractions (national parks, volcanoes and wildlife) were considered Costa Rica's strongest suit for tourists (see Figure 7.4).<sup>47</sup> In fact, in 1994, about 65 percent of tourists visited a protected area and 81 percent of them considered protected areas to be excellent or very good.<sup>48</sup>

Table 7.7 Size of Certified 'Ecologically Responsible' Lodging Businesses

Capacity (rooms)	Percentage of the certified ecotourism lodgings
0-15	31
16-30	29
31-45	20
46-60	13
61-135	7
135-	0

Source: J. Segleau, 1995; See note 11, p. 69-102.

Table 7.8a Environmental Performance of Receptive Travel Agencies in Costa Rica

Criteria	Number of travel agencies that fulfill the criteria	Percentage of the total
1. Type of tour guide:		
a. Biologist	39	20
b. From the local community	78	40
2. Level of dedication to nature oriented tours to nature-oriented tours		
a. 75 percent dedication	41	21
3. Size of tourist groups		
a. Tourist groups no bigger than 20 people	84	43

Table 7.8a cont.

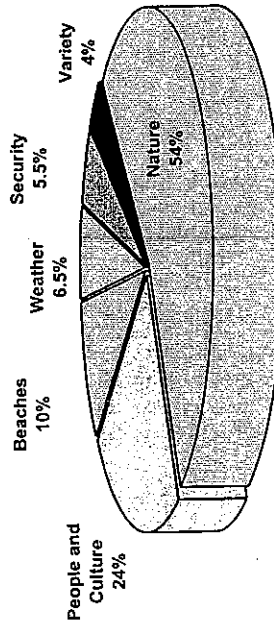
4. Destinations			56
a. National parks and reserves	109		

Sanchez found that among 196 receptive travel agencies only 17 agencies fulfilled most of the criteria (see Table 7.8b).

Table 7.8b Fulfillment of Performance Criteria by Travel Agencies

Criteria fulfilled	Number of agencies	Percentage of the total
Two	44	22
Three	14	7
Four	3	2

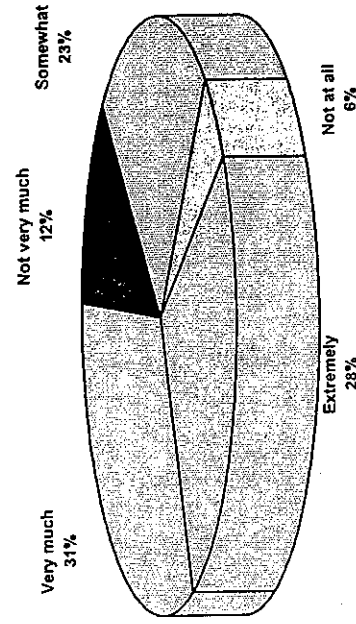
Figure 7.4 Strengths of Costa Rica as a Tourist Destination



Source: A. Avalos 1996, 'Turismo e Infraestructura Turística', La Nación, San José: La Nación, 5 May, p. 4A-5A.

An additional study made in the US during 1993 found that among potential travelers to the country, 82.9 percent express interest in taking an ecotour (see Figure 7.5).<sup>49</sup>

Figure 7.5 Interest in Taking an Ecotour



Source: Menlo Consulting Group, Inc. and ICT (1994), *The Potential Market for Pleasure Travel from the USA to Costa Rica*, California: Menlo, Inc., pp. 13-17.

These data illustrate why most of the tourism companies strongly support the protection and expansion of the national parks. It also shows why most of the investors have created hotels, tour operators, travel agencies, and so on, which try to be perceived as environmentally friendly even if they do not practice adequate environmental and natural resource management practices.

Thus, it is clear that visitor preferences have motivated the partnership between the government and tourism industry to sustain a first class national park system. These preferences also have strongly motivated the supply of nature-oriented services and establishment of small-scale hotels close to the protected areas. Nevertheless, the visitors' 'green' preferences have not been enough to motivate the adoption of sound environmental and natural resource management practices.

This is not surprising because even if tourists are very concerned about the ecology, it is very difficult for them to judge what a business is doing with, for instance, its waste water, use of energy, management of solid waste, and so on. A third party organization, either from the government or the private sector with technical expertise, is necessary to assess these areas of business environmental performance. If these technical evaluations were implemented and made available to the public, then tourist preferences could motivate the adoption of improved environmental management practices.

*Box 7.2 Placing Costa Rica on the Naturalists' Map: The Role of the Organization for Tropical Studies<sup>50</sup>*

The growth of tourism in Costa Rica has been greatly facilitated by the presence of the Organization for Tropical Studies (OTS). Although OTS was not a commercial travel agency, it was responsible for helping to create Costa Rica's image abroad as a tropical paradise through bringing tens of thousands of scientific visitors to the country.

Created in 1963, the Duke University-based international consortium of universities and research institutions owns three research sites in Costa Rica: the La Selva, Las Cruces and, Palo Verde Biological Field Stations. These sites function as open-air classrooms and laboratories for tropical science students and professionals, providing hands-on experience for members of OTS's 55 member institutions and the international scientific community.

More than 3,000 biology students have embarked on their research of tropical ecology on the courses that are taught at OTS's field stations. In fact a great number of tropical scientists working in the new world today have at some point studied or worked at OTS.

When space permits, groups of non-academic visitors also visit La Selva to see birds, frogs, and insects, as well as its unique vegetation.

If OTS were a profit-making institution, it would be Costa Rica's most successful travel agency, with La Selva its main resort. All students and scientists OTS has been bringing to the country need to be housed, fed, and provided with guides. And the number arriving each year has kept increasing, surpassing 22,148 person-days at La Selva in 1995 (Echeverría, Cynthia, OTS, San José, Costa Rica, May, 1996) (a combined measure of number of visitors and time spent in the place). However the direct financial impact of OTS-related ecotourism only represents a small part of the organization's overall effect on the industry. The research and publications generated through OTS have greatly contributed to put Costa Rica on the map of ecotourism (69 percent of OTS visitors persuade others to visit as well).

*Source:* Whelan, T. (1991), *Nature Tourism, Financing for the Environment*, Washington, DC: Island Press, p. 5053.

- Kapur and Anne Reynolds, formerly of the Yale School of Forestry and Environmental Studies, New Haven, Connecticut. The overview of joint implementation in Costa Rica is presented in section 7.2 and is by Lijia Castro in collaboration with Esteban Brenes and Gabriel Quijandria.
- 3 For supplementary material on government, businesses, and the environment, see: Cairncross, F. (1991), *Costing the Earth: The Challenge for Governments: The Opportunities for Business*, Boston: Harvard Business School Press.
  - 4 For an example of a successful protected area program in Costa Rica, see: Aylward, B. et al. (1996), 'Sustainable Conservation in Costa Rica: The Monteverde Cloud Forest Reserve', *Biodiversity and Conservation*, 5, 315-43.
  - 5 For general information on ecotourism, see: Miller, J.A. and E. Malek-Zadeh (eds) (1996), 'The Ecotourism Equation: Measuring the Impacts', *Yale School of Forestry and Environmental Studies, Bulletin Series*, 99, New Haven: Yale University; Wells, M.P. (1997), 'Economic Perspectives on Nature Tourism, Conservation and Development', *Environmental Economics Series*, 55, Washington, DC: World Bank.
  - 6 For further discussion of protected areas as they pertain to development, see: Munasinghe, M. and J. McNeely (eds) (1994), *Protected Area Economics and Policy: Linking Conservation and Development*, Washington, DC: World Bank.
  - 7 *Ibid.*
  - 8 For supplementary information on protected areas and community, see: Wells, M. and K. Brandon with L. Hannah (1992), *People and Parks: Linking Protected Area Management with Local Communities*, Washington, DC: World Bank, the US Agency for International Development and the World Wildlife Fund; Southgate, D. (1996) *Can Habitats Be Protected and Local Living Standards Improved by Promoting Ecotourism, Non-Timber Extraction, Sustainable Timber Harvesting, and Genetic Prospecting?*, Report to the Inter-American Development Bank, Columbus, OH: Ohio State University.
  - 9 For additional case study analysis of waste water in developing countries, see: Rivera, D. (1996), *Private Sector in the Water Supply and Waste water: Lessons from Six Developing Countries*, Washington, DC: World Bank.
  - 10 For further information on waste water policy in Latin America, see: Idelovitch, E. and K. Ringskog *Waste Water Treatment in Latin America: Old and New Options*, Washington, DC: World Bank.
  - 11 Segicau, J. (1995), *La empresa de hospedaje ecoturístico en Costa Rica y sus aportes al desarrollo sostenible: una propuesta de clasificación*, Graduation thesis, San José: ULACTI.
  - 12 Gentry, B.S. and L.O. Fernandez (1998), see note 1.
  - Section 7.1 The Tourism Industry in Costa Rica
  - 13 Elizabeth Boo (1990), *Ecotourism: The Potentials and Pitfalls*, Vol. 2 (Washington, DC: WWF-US, pp. 25-37).
  - 14 Instituto Costarricense de Turismo (ICT) (1995), *Plan operativo, 1996: diagnóstico sobre la situación del turismo en 1994*, San José: ICT, pp. 7-8.
  - 15 *Ibid.*
  - 16 *The Economist* (1996a), 'Country Profile 1995-1996', London: The Economist.
  - 17 Cordero, Sarah (1995), *Tourism in Costa Rica*, Alajuela: INCAE, p. 16.
  - 18 Comisión de la Comunidad Europea (CCE) and ICT (1993), *Plan Estratégico de Desarrollo Turístico Sustentable de Costa Rica (1993-1998)*, San José: CCE-ICT, pp. 2-3.
  - 19 See note 16.
  - 20 Rojas, C. (1995), 'Turismo en la antecala de crisis', *Actualidad Económica*, San José, Costa Rica.
  - 21 Harris, B. (1996), 'Cost of tourism to drop', *The Tico Times*, 22 March.

- 22 See note 17.
- 23 See note 20.
- 24 Whelan, Tensie (1991), *Nature Tourism, Managing for the Environment*, Washington, DC: Island Press.
- 25 See note 20.
- 26 *Ibid.*
- 27 See note 24, pp. 44-46.
- 28 *Ibid.*
- 29 See note 13.
- 30 See note 13, p. 28.
- 31 See note 13, pp. 28-29.
- 32 See note 13, p. 40.
- 33 See note 24.
- 34 See note 11.
- 35 Aylward, B. et al. (1996), 'Sustainable Ecotourism in Costa Rica: The Monteverde Cloud Forest Preserve', *Biodiversity and Conservation*, 5, 315-43.
- 36 Banco Mundial (1995), *Informe Sobre el Desarrollo Mundial*, Washington, DC: Banco Mundial, 247.
- 37 See note 35.
- 38 Salazar, S. (1992), 'La actividad del turismo en Costa Rica', *Gestión Empresarial*, San José July-August 15-19.
- 39 See notes 13 and 24.
- 40 Campos, J. et al. (1994), *Sistema Ecosello: Propuesta de certificación ambiental de hoteles y agencias de viajes en Costa Rica*, San José, Costa Rica: FUNDEVI.
- 41 See note 11.
- 42 Sanchez, A. (1996), *Oferta de Agencias de Viaje Ecoturísticas de Costa Rica*, Graduation Thesis, San José: ULACTI.
- 43 See note 11.
- 44 See note 40.
- 45 *Ibid.*
- 46 See note 42.
- 47 Avalos, A. (1996), 'Turismo e Infraestructura Turística', *La Nación*, 5 May.
- 48 See note 18.
- 49 Menlo Consulting Group, Inc. and ICT (1998), *Plan Estratégico de Desarrollo Turístico Sustentable de Costa Rica (1993-1998)*, pp. 16-17.
- 50 See note 24.
- Section 7.2 Joint Implementation
- 51 Figueres, Christina et al. (1996), 'Joint Implementation: What? Who? Where?', San José, Costa Rica: Center for Sustainable Development in the Americas, January.
- 52 Center for Sustainable Development in the Americas (1995), *Joint Implementation in Costa Rica*, San José, Costa Rica: Center for Sustainable Development in the Americas.
- Section 7.3 Waste Water in Juárez, Mexico
- 53 Harvie, Scott W.D. (1995), 'Municipal Waste Water Market Equipment and Service', *Mexico Trade and Law Reporter*, 1 October, p. 1.
- 54 *Ibid.*
- 55 *Ibid.*
- 56 *Ibid.*
- 57 Long, F.J. and M.B. Arnold (1994), *The Power of Environmental Partnerships*, Washington, DC: Management Institute for Business and the Environment.
- 58 Maquiladoras are foreign-owned factories operating on the Mexican side of the border in accordance with the stipulations of the 1965 Border Industrialization Program.
- 59 Sklair, L. (1989), *Assembling for Development: The Maquila Industry in Mexico and The*

