Minding the Undertow: Assessing Water "Privatization" in Cuba

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Abstract: The privatization and commercialization of water has proven to be one of the most controversial policy developments of the past 20 years. Largely associated with the neoliberalization of the world economy, it comes as a surprise to many that the socialist government of Cuba signed a 25-year contract with a Spanish multinational in 2000 to manage the supply of water in Havana. This paper provides an historical context for water reforms in the country and the first comprehensive study of this little-known contract. Based on key interviews and primary documentation we argue that there are no easy explanations for why the contract was signed, or whether it has achieved its objectives. There are, however, interesting lessons to be learned for public–private partnerships elsewhere in the world, and insights into the changing fabric of socialism in Cuba.

Keywords: water, privatization, Cuba, socialism, commodification

The privatization and commercialization of water has been one of the most hotly contested policy developments of the past 20 years. From the outright sale of public assets, to "public–private partnerships" to the introduction of private sector operating principles in state-run water facilities, privatization (broadly defined[1]) has drawn the ire of activists, unionists, politicians, academics and policy makers alike. From London to Buenos Aires to Manila, water privatization has come to epitomize one of the most insidious forms of marketization and resource dispossession.

It is with surprise, then, that many learn of the 25-year contract signed by the Cuban government with a Spanish multinational (Aguas de Barcelona) in 2000 to manage the supply of water in Havana. Why would a government long recognized for its principled commitment to socialism, and its criticism of market reforms elsewhere, enter into such an arrangement? More importantly, what have been the outcomes of this contract and what lessons might be learned for water privatizations elsewhere in the world?

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This paper attempts to answer both of these questions, though neither the investigation nor our conclusions are straightforward. Information on the partnership contract was exceptionally difficult to come by. Water privatization is always a sensitive research topic and this proved particularly true in Cuba. Although official research permission was granted to study the water concession and to interview senior officials related to the joint venture, access to the water contract itself was not provided and written records related to the concession were limited. Most interviewees asked that they be quoted only on condition of anonymity.

These limitations aside, a wealth of information was gathered which, for the first time, provides an historical overview of water provision in Havana from before the revolution through to the Special Period and into the contract with Aguas de Barcelona (Cocq 2006). This paper focuses specifically on reforms from the 1980s onwards, starting with the introduction of the *Sistema de Perfeccionamiento Empresarial* (SPE, System of Entrepreneurial Perfection[2]) and reforms related specifically to the water sector. This discussion is followed by an overview of the ownership and financing structure of the joint venture, pricing systems, regulation, and their impact on labour.

In the end, the outcomes would appear to be mixed. At one level, the Havana joint venture can be said to be a "successful" case of privatization: significant resources have been invested; water systems improved; and jobs protected. Most importantly, water remains effectively free for the average Cuban and the reforms appear to have averted a water services crisis that came to a head after the collapse of the Soviet Union in the early 1990s.

And yet, there has been no public debate or discussion about the private contract or the institutional mechanisms established, and many questions remain. Was a private investor really necessary? Could the state have managed the situation internally? Is the water contract indicative of a larger set of shifting institutional and ideological norms in Cuba? Can the ostensibly "socialist" reforms taking place in the water sector stave off the creeping effects of commodification seen with neoliberal forms of commercialization elsewhere in the world?

The general literature on Cuba suggests several possible answers and explanations to these questions. One is that Cuba is finally making its "inevitable" move to a market economy. Conservative and neoliberal commentators alike argue that the "iron grip" of the Communist state has finally been weakened and that the economy can now make its necessary, desirable, and "natural" shift to being governed by self-interest and entrepreneurialism (Castañeda and Plinio Montalván 1994; Ritter 1992; Mesa-Lago 2001; Mesa-Lago and Pérez-López 2005; Pérez-López 1998, 2003; Travieso-Díaz 2001).

More useful to our discussion here, however, are perspectives that are more nuanced in their analyses. One such perspective sees the introduction of limited market reforms (including water service partnerships) as a "necessary evil", required to manage the crisis that resulted from the collapse of the Soviet Union. Such measures reflect the commitment of the state to doing everything in its power to ensure that Cubans continue to receive adequate supplies of basic goods and services, even if this means making "pacts with the devil" to protect the gains of the revolution and to sustain socialist principles of equity (Azicri 1992, 2000; Kapcia 1996; Saney 2004).

Others have seen the reforms of the Special Period in the 1990s as part of a longer standing initiative within the Cuban state to experiment with and develop new systems of management that have market characteristics but which are still committed to the socialist ideologies and objectives of the Cuban state (ie "market socialism") (Carranza Valdés 1995; Carranza Valdés, Gutiérrez Urdaneta and Monreal 1996; Monreal 2002).

Still others see these changes as representative of a creeping shift towards market ideologies on the part of (some) Cuban policy makers, indicating a "sell out" of socialist principles and of the Cuban revolution more generally. Although opinions differ as to the extent of, and motivation for, this shift, there is a general consensus among these analysts that a new market-oriented cadre of bureaucrats and private entrepreneurs is having a growing influence on policy making and institutional development (the joint venture in water in Havana being but one example) to the detriment of the laudable goals of the revolution (Carmona Báez 2004; Dilla 1996, 1999).

Our position, with respect to the water concession in Havana at least, is that it reflects some combination of all three of these perspectives. Clearly there has been crisis management of the most severe kind since the early 1990s that has forced policy makers in Cuba to make choices they may not have wanted to make given more time or more options to choose from. The water sector was just one of many to have been hit hard by the collapse of the Soviet Union and the tightening of the US embargo and it is understandable that policy makers would be looking for ways to provide safe potable water to everyone in Cuba as a practical priority, even if it violated ideological and institutional norms.

It is also true that the Cuban state had been, and continues to be, developing new systems and philosophies of managing state services and state firms, as well as interacting with private companies from market economies outside the country. The *Sistema de Perfeccionamiento Empresarial* is perhaps the best illustration of this shift in thinking, and was officially established to maintain and improve socialist principles and outcomes.

But troubling questions arise when one looks at the specific decision-making processes around the introduction of Aguas de La Habana (the name of the joint venture firm providing water in Havana) and its outcomes to date. It is not entirely obvious that the Cuban state required a private partner—particularly one so closely tied to a major hotel operator in the tourism sector in the country. Nor is it clear that this joint venture was an attempt to maintain socialism under a new managerial rubric. Interviews with key players suggest a more fundamental ideological shift, one that is intimately linked to marketization trends in other sectors of the Cuban economy.

Finally, the outcomes of the joint venture—though better than any other water privatization initiative that we are aware of elsewhere in the world—raise important questions about the sustainability of the "success" of the project and the potential knock-on effects it may have in other sectors of the economy and in the social fabric of Cuban society. In the end, there are no simple conclusions to be drawn. The situation is too complex and information too limited for that.

But two caveats before we begin. The first is that the paper contains considerable empirical data. This is due in part to the fact there is no published literature (academic or otherwise) to which we can refer readers for background information. As such, it is impossible to explain our conceptual points about the (changing) nature of socialism and the mixed outcomes of the water contract in Cuba without describing the specifics of the contract and related political reforms. The devil, as the saying goes, is in the details, and the specifics of the contract and related political reforms reveal both positive and worrying aspects, shedding light on the dual nature of commodification in Cuba and the difficult policy path down which the country has begun to walk. In this respect, answers to the questions about the "success" of the contract, which are asked in the second half of the paper, will be evident in the empirical discussion at the beginning.

The second caveat is that the conceptual debates in this paper will seem both familiar and alien to readers acquainted with the critical literature on water privatization. Much of the writing in this genre revolves around relationships between markets and nature, with a focus on the differentiated—but generally corrosive—effects of neoliberalism on water management, and the complex dynamics of (re)regulation, commercialization and other forms of commodification (Allouche, Finger and Luis Manso 2006; Bakker 1999, 2004, 2007; Castree 2002; Castro 2008; Harvey 2003; Jaglin 2002; Mansfield 2004; McCarthy and Prudham 2004; Robbins 2003; Swyngedouw 2005).

We have written in this tradition ourselves while looking at water commercialization in neoliberal(izing) contexts, and perhaps for this reason found it difficult at first to disengage sufficiently with its analytical assumptions to understand the situation in Cuba. For although there are important institutional and ideological links with neoliberal trends taking place elsewhere in the world—and we employ some of these insights in this paper to shed light on the Havana case study—there are analytical limits to this literature in the Cuban context. Despite its contradictions Cuba is still an essentially socialist state, which has attempted over the past 50 years to de-commodify a wide range of social and economic activities and to deliberately disengage itself from, and openly critique, the increasingly neoliberal world around it. Neoliberal thought and practice may be gaining traction in the country—a point we underscore in our conclusions—but it is not nearly as entrenched ideologically or institutionally in Cuba as it is in virtually every other country where water commercialization has taken place. Wage relations, property ownership, social norms, state capacity and a range of other critical factors are different enough in Cuba to make direct comparisons to the international literature difficult.

It is essential, therefore, to evaluate the Havana water contract on its own terms, and to take seriously the internal dynamics of Cuban political and economic reform. Nevertheless, it is an analytical balancing act: recognizing the complex (and often secretive) dynamics of internal change stemming from decades of anti-capitalist reform, as well as acknowledging the waves of neoliberal thought and pressure that continue to sweep up against Cuba's shores.

While only a beginning—and raising some questions that we are unable to answer here given space constrictions—we hope this paper reveals some of the differences and similarities between water commodification and commercialization elsewhere in the world and that of the Havana concession.

The SPE: Incentives, Productivity, Profitability, Flexibility

In 1998, the Cuban government passed Law 187 on the "General Bases" of the *Sistema de Perfeccionamiento Empresarial* (SPE, System of Entrepreneurial Perfection). The SPE is a set of standards and procedures aimed at reorganizing production and making Cuban enterprises more efficient and profitable. Although the SPE was not codified until 1998, work on developing the system had begun more than 10 years earlier.

The SPE was a response to both international and domestic trends. Globally, production trends were being transformed as Japanese industry was booming by spearheading new management systems such as *Kaisen* and Just-In-Time (JIT) production. The Cuban state felt pressure to adapt its production systems in order to be able to compete in the new post-Fordist global economy, an indication perhaps of the government preparing itself for a time when it would need to increasingly integrate itself into this world economy (Echevarría León and García García 2002; Marquetti Nodarse 2002).

Domestically, the impetus to experiment with new production models arose with the *Rectification* process of the late 1980s, a state response to the failures and inefficiencies of the highly centralized planning model developed in the 1970s. Thus, early experimentation with different production models was driven by a desire to improve the efficiency of resource use and bolster production (Marquetti Nodarse 2002); or, in the words of one of our interviewees, "to find a way towards new and superior development of our enterprises . . . to put the Cuban enterprise at the level that global enterprises had reached by that time" (interview G). Similar changes were also being attempted in other countries of the Soviet-led Council for Mutual Economic Assistance (COMECON).

The first experiments in entrepreneurial reform began in 1985 in enterprises operated by the Cuban military—the FAR (*Fuerzas Armadas Revolucionarias*)—with the introduction of greater managerial autonomy, new accounting practices, and an increasing emphasis on financial self-sufficiency. These experiments were later applied to other enterprises outside FAR (Marquetti Nodarse 2002). In 1991, research efforts were put on hold as the crisis of the Special Period reached its full depths. Work resumed 2 years later and in 1994 the government passed a decree stating that "Management by Objectives", or results-based management, was to be adopted by all economic entities in the country (interview G). In the context of the Special Period, greater priority was given to developing a new entrepreneurial system, increasingly seen as a central part of post-Soviet recovery and necessary to the "internationalization" of Cuban enterprises (Marquetti Nodarse 1999, 2002). In 1998, the "General Bases" of the SPE were passed into law, to be applied to all enterprises in the country.

The core elements of the SPE are increased enterprise-level autonomy from the state, the implementation of full cost accounting, the requirement for profit generation, and increased labour flexibility. There are 17 general principles of the SPE in total, summarized in the three categories below:

- *Increased autonomy and decentralized decision-making*. Enterprises are granted almost complete authority in developing budgets, spending resources and administering surpluses, developing strategic and production plans, as well as greater autonomy in managing their labour force. While budgets and strategic plans must still be approved by designated state bodies and must fall within the parameters of central state budgets and policy, enterprises can now exercise an unprecedented degree of executive authority as a means of curbing tendencies of central government to impose operating models from above (Gobierno de Cuba 1998a).

- *Self-financing and financial autonomy*. Enterprises are required to cover all overhead costs with their own revenue as a form of full cost accounting. In addition, enterprises are required to generate a margin of surplus, part of which is directed to central government while the remainder is kept by the enterprise in reserve. Enterprises are also allowed to commit a certain portion of their budgets, subject to state approval, to transactions in foreign or fully convertible currency.
- *New labour management principles*. This includes an increased emphasis on the use of material incentives[3] and linking compensation to productivity: "Results, not effort, will be rewarded". The SPE seeks to promote the "rationalization of labour", thus management is given greater autonomy in decisions concerning the work force in order to maximize the productivity of labour resources (Gobierno de Cuba 1998a, author translation). This includes decisions regarding downsizing and flexibilization (permanent or temporary lay-offs) that can now be made more independently of the Communist Party or the Ministry of Labour and Social Security (Carmona Báez 2004). Another element of new labour policies is the participation of the workforce in planning and production decisions made by management, a point that many in Cuba are quick to point out as an important difference between the "socialist" enterprise experience and other "capitalist" ones (see Echevarria León and García García 2002; Pons Duarte 2003).

Performance standards are also set out in a number of other areas, including methods and styles of management, quality control, economic planning, contracting and procurement, accounting and internal auditing, price setting, information systems, customer service, and market analysis. Enterprises undergoing SPE reforms are monitored and their progress evaluated by a government body. At the time of writing there were 711 enterprises in Cuba that had completed the SPE or were currently engaged in reform.

The SPE is intended to improve the efficiency of Cuban state enterprises, maximizing the use of financial, human, and material resources, particularly in the use of dollars, and improving overall productivity (Comisión Económica para América Latina y el Caribe—CEPAL 2004). For some, the motivations of the SPE are to find a new way of operating an economy that abandons both the "traditional model of state intervention in economic development and social progress" as well as the "incapacities of the neoliberal model" (Pons Duarte 2003:7). It is viewed as a strategy for improving the efficiency of "socialist production" while maintaining the principles and goals of equality and social justice on which such socialist production is based.

Significantly, the SPE is contrasted with neoliberal public sector reforms in other developing countries which, motivated by the search for macroeconomic stability, have meant "the reduction of the role of the state and its abandonment of important public responsibilities" (Pons Duarte 2003:12). In particular, the application of neoliberal reforms in public administration in other countries has made way for the expansion of private capital, in particular transnational capital, that have minimized the potentially positive social impact of a "new public administration" (Pons Duarte 2003). Under the SPE it is possible to restructure production while "preserving the nature of the State as producer"; that is, reforming production within an economic framework of continued state intervention, rather than as a means of doing away with the state's active participation in production based on the neoliberal assumption of "the incapacity *per se* of state enterprises to reach similar levels of efficiency as private enterprises" (Marquetti Nodarse 2002).

Related Water Sector Reforms

Several changes in the water sector in the 1990s related to SPE helped set the stage for the creation of the joint venture in water provision in Havana—Aguas de La Habana—in 2000. The most important of these changes were: the implementation of operational reforms specific to the water sector in 1998 (*autogestión empresarial*); the reintroduction of water tariffs; and the creation of the first joint venture in water service delivery in the resort area of Varadero, later extended to Havana.

Autogestión Empresarial

In 1998 a process of reform began in the water sector known as *autogestión empresarial* (entrepreneurial self-management) that involved a fundamental reorganization of service delivery across the country. The establishment of the dual tariff system laid the foundations for these reforms, because the revenue generated by tariffs for local utilities became one of the justifications for reorganizing service delivery across the country (interview E-1).

The central goal of the *autogestión empresarial* reforms was to change the way water and sanitation services were provided at the local level in order to make service delivery more efficient and cost effective. This required a restructuring of local organizations and of the *Instituto Nacional de Recursos Hidraúlicos* (INRH [National Institute of Hydraulic Resources], a centralized body established in 1962 to oversee the management of water resources in Cuba), as well as a restructuring of the relationship between local and central levels of management.

The INRH was restructured to function as a central state-level policy-making body for all water resource matters (like a national water resources ministry). Under its new structure the INRH oversees the country's integrated water resource management, monitors the operation of local water utilities to ensure "the highest levels of economic efficiency and quality", and seeks to raise awareness in society "of the value of water, its role in development, and its scarcity" (INRH 2005).

Toward this end, INRH decentralized all operation and management functions to its local municipal utilities (or provincial utilities, in rural areas). These local utilities were turned into enterprises or corporations, and assumed many of the operational, managerial, and financial responsibilities previously held by INRH. Under this new framework, these local utilities became entirely responsible for covering all their operational and management costs with their own revenues—generated through tariffs—and were required to adhere to new management principles and standards of efficiency and resource maximization. A new national body known as the *Grupo Empresarial de Acueductos y Alcantarillados* (GEAAL, Entrepreneurial Group for Water and Sanitation), under the supervision of INRH, was created to directly oversee the day-to-day operation and management of the newly reformed utilities (interview E-1).

In the case of the larger municipalities, the process of making local utilities more independent and autonomous from central government also changed their relationship with local government. Until this time, local water and sanitation services were run like departments of local government, allowing elected municipal councils to exercise a substantial amount of control over their daily operations and management. Under the new arrangement, local government officials are given representation within the governing structures of the new utility companies and company representatives are given a seat on local Administrative Councils that run the daily affairs of local government.[4]

Although policy-making authority and some power over budgets remained with INRH and the newly created GEAAL, *autogestión empresarial* signalled a drastically different era in local service delivery in Cuba. It was intended to introduce a new way of thinking into the operation of water service delivery based on "entrepreneurial" or business-like principles and based on at least partial cost recovery. The idea behind *autogestión empresarial* was that "the rules of the game of an enterprise—financial, accounting, etc—are different than those of a budgeted utility"[5] (interview E-2). In other words, a utility operating on these "corporate" principles would operate more efficiently than one financed and managed centrally. "The entrepreneurial system", put simply by a senior INRH official, "is superior, more efficient" (interview E-1).

It is clear from this that *autogestión empresarial* bears a striking resemblance to the SPE. Although INRH officials have stated that the process was not officially part of the SPE, it was designed based on the same principles and toward the same goals, and mirrored the implementation of the SPE in other service sectors such as electricity (CEPAL 2004).

Tariffs and Joint Ventures

As part of the Cuban government's attempts to make basic services available to all, domestic tariffs for water services in Cuba were eliminated in 1968. Industries and most government institutions continued to pay for their consumption, but households received water for free. This continued until 1994 when domestic tariffs were reintroduced. According to the INRH, the rationale behind the 1994 decision was motivated by the devastating effects of the fall of the socialist bloc.

The elimination of domestic tariffs in 1968 meant that a significant portion of the operating costs for municipal water services were covered by the national budget. With the severing of trade relations with the USSR and the socialist bloc, the government was left with limited resources and capital to finance its extensive state services. The water sector in particular was entirely dependent on other socialist states for its technological and chemical inputs, and was severely affected by the collapse of trade with Eastern Bloc countries (CEPAL 2004). Thus, the reintroduction of domestic tariffs for water in 1994 served as a means of generating revenue to finance the service. Approximately a year later, tariffs in dollars were introduced, creating for the first time in Cuban history a dual tariff structure for basic services (interview E-1).

The Aguas de Varadero Joint Venture

The second major change in the sector was the creation of Cuba's first joint venture in water and sanitation services in the tourist area of Varadero. The creation of this company not only set a precedent for the creation of later joint ventures but would also have important political, financial and commercial implications for the entire sector nationwide for many years to come.

Aguas de Varadero was created in 1994, the same year that tariffs were reintroduced. It was a direct response to the development of one of the earliest joint ventures in tourism in Cuba, following the government's liberalization of the sector during the Special Period. The resort at Varadero was a joint venture between the Cuban government and the Spanish multinational hotel chain, Sol Meliá, the world's largest hotel and resort multinational and one of the first foreign investors in Cuba after the fall of the USSR.[6]

During construction at Varadero, Sol Meliá began to raise concerns that the existing water supply and the quality of service would be insufficient for the projected needs of the resort being planned. In response, the Cuban government began planning for large investments to increase water supply from new sources outside the city, but Sol Meliá suggested that Aguas de Barcelona, a Spanish multinational, would offer "more efficient management of the water supply" and pushed the state to investigate this option (interview C). According to one source, "the Cuban government was sort of led by the hand to the idea [of a joint venture in water] by the investor [Sol Meliá]" (interview C). Soon after, the Aguas de Varadero joint venture was created.

The Aguas de Varadero water concession is an "international economic association", meaning it is owned 100% by the Cuban government with a 25-year contract for "consulting, technical, and management services" with Aguas de Barcelona (interview C). The Cuban government is solely responsible for all investments in infrastructure and expansion. The private partner, Aguas de Barcelona (also known as AgBar), was brought in not so much for the capital it provided as for the loan it extended to INRH and its "know-how", technological expertise and experience in water supply management. Some elements of cost recovery were implemented in Varadero when the company first started, and the revenue generated by tariffs went to repay the loan to AgBar and to cover some of the infrastructure investments for which INRH was responsible (interview B).

Aguas de Varadero had important implications for the newly established tariff system in Cuba. Initially, tariffs were only applied to non-metered domestic users and were charged in Cuban pesos. It quickly became clear, however, that revenue generation from these sources was inadequate to cover costs, and the state decided to experiment with more profitable user groups—tourists (interview B). A parallel tariff system in dollars was introduced in Varadero a year after peso tariffs, and later universalized across the country in 2000.

All available accounts report that the results of the joint venture to date at Varadero appear to have been positive. There is now 24-hour service, the water is fully potable and has good pressure. The introduction of new technologies dramatically reduced leakage in the system which had been the cause of intermittent and low pressure service. Rather than seeking out new and larger capacity supply sources as the government had originally planned, Aguas de Varadero was able to actually reduce overall demand on the existing supply by reducing the amount of unaccounted-for water (lost through leakage) (interview E-1). Aguas de Varadero is now, according to some, "up to the standards of the most modern water delivery systems in the world" (interview C).

It was not possible to determine whether the same level of service is being provided to local residents of Varadero who pay in pesos. Nor is it clear if full cost recovery is being achieved in the peso (ie domestic) sector, outside the resort areas. What is clear is that Aguas de Varadero is achieving full cost recovery in the dollar (ie tourist) sector. In fact, by tapping into the tourist economy, the dollar sector has been generating surpluses for the company and its investors for several years.

By stipulation of the contract with AgBar, the Cuban government receives 50% of all surplus revenue generated. Another percentage of the profits is repatriated to Spain, but exact figures were unavailable. However, the operation has become so profitable that the government's share of the revenues allows it to cover all its water infrastructure investment at Varadero and to use the surplus to finance water projects elsewhere in the country (interview B).

But despite the financial benefits and apparent improvement in service that have resulted from Aguas de Varadero, the operation still involves important costs for the Cuban government. Almost the entire financial burden for the operation has been and continues to be borne by the Cuban government through infrastructure investment, while AgBar only contributes new technologies and methodologies for operating the system more efficiently. In addition, not long before the agreement with AgBar was signed, the government had already invested in upgrading the infrastructure in the town of Varadero, something from which the new water company surely benefited (interview E-1).

The importance of the joint venture of Aguas de Varadero is that it set a precedent for the creation of subsequent joint ventures. It is said that the financial success of Varadero prompted the government (and presumably AgBar) to contemplate the possibility of replicating the arrangement in other areas with high tourist concentration (interview C). Most importantly, it allowed the Cuban government, and INRH in particular, to "get to know the partner, the people at AgBar, and the tremendous experience they have" (interview E-1). The Varadero experiment "established a climate of mutual trust, and so the conversations with [AgBar] continued until a new company was created in the west part of the city of Havana" (interview C).

In 1997, the Cuban government and AgBar signed a second joint venture for the creation of Aguas del Oeste. This company serviced three municipalities in the west of Havana—Playa, Lisa, and Marianao—where there are large commercial districts and a concentration of mini-resorts that had been developed during the mid-1990s by foreign investors, including Sol Meliá, which were expected to allow the venture to be profitable in dollar terms (interview E-1).

Aguas del Oeste is a similar arrangement to Aguas de Varadero. It is owned 100% by the Cuban government, which is responsible for all infrastructure investments, while AgBar provides "consulting, technical, and management" services (interview C). Little information is available about Aguas del Oeste and the contract, such as the number of years for which the agreement was signed. From the perspectives of INRH and AgBar, however, it proved to be very successful and "surpassed all expectations" (interview C). Early on in the life of the contract it was decided that it would be extended progressively to eventually cover the entire city of Havana. According to senior staff at AgBar, the multinational initially entered into the Aguas del Oeste agreement "always with the intention of moving into the city of Havana" (interview F). In 2000, Aguas del Oeste became Aguas de La Habana, a 25-year contract similar to a lease, serving eight of the 11 municipalities of the greater city of Havana.

The Aguas de La Habana Contract

It was not possible to obtain a copy of the official contract signed between the Cuban government and Aguas de Barcelona for water services in Havana, despite several attempts, because it is considered confidential and a matter of national interest. However, details regarding the nature and content of the contract were revealed during interviews conducted over the course of the research.

The Aguas de La Habana contract is different in some respects from private sector water contracts that have been developed elsewhere in the world. The most striking difference perhaps is that there are no specific targets against which the operator's performance can be measured (interview C). Rather, the contract lays out general objectives for Aguas de La Habana for the "continuous improvement" of the service: modernization of the infrastructure; reducing the amount of unaccounted-for water in the system; reducing the amount of electricity consumption as a result of excessive pumping from aquifers; rehabilitating the distribution network; improving water quality; increasing the number of hours of service per day; improving water pressure; and computerizing the management of the operation (interview C).

The contract is therefore more of a memorandum of understanding between the two parties. The agreement was apparently drafted in this way because the Cuban government and AgBar, through their history of cooperation in previous ventures, had developed "an understanding, mutual trust, and a climate of transparency" that allowed for a "well-conceived contract that did not require rigid parameters" (interview C). The contract was signed on 1 January 2000, and Aguas de La Habana began operations on 1 April that year.

Ownership and Financing

Aguas de La Habana is a mixed capital joint venture, meaning that the Cuban government (through the relevant ministry—INRH) contributed 50% of the initial start-up operating capital of the company, totalling US$4 million.[7] Of the remaining capital contributions, 45% come from

AgBar S.A. of Spain, and the final 5% from a private Spanish investor by the name of Enrique Martinón, for an additional private capital contribution of US$4 million (interview F).

The presence of a single private investor is uncommon in this type of contract. This investor is said to be the person who initially linked up the Cuban government with AgBar (interview C). Martinón was among the first Spanish investors in Cuba, and has controlling shares in a Spanish company, CIHSA, which controls all the major Sol Meliá resorts in Cuba (*Economic Eye on Cuba* 1998). No further details are known about this investor's relationship with AgBar.

Otherwise, the Aguas de La Habana arrangement is similar to a lease contract. The Cuban government retains full ownership of the infrastructure and allows AgBar to use it to deliver the service (interview C). INRH is responsible for all infrastructure investments and upgrades. This is an ongoing capital commitment. For the life of the contract INRH (not Aguas de La Habana or AgBar) is solely responsible for covering all investment costs. This capital comes from the central government budget and a significant portion of it (although the exact numbers are unclear) is from revenue that INRH earns from the operations of Aguas de Varadero.

According to one source, placing all responsibility for infrastructure investment in the hands of INRH allows the state to protect against "cherry-picking", a practice in which investment or service improvement is directed only to those areas of the city that are profitable (eg tourist areas that generate substantial dollar tariffs). To further protect against this practice INRH was also given a representative on the highest-level governing body of Aguas de La Habana, the Administrative Council (interview B).

Aguas de La Habana itself is responsible only for the costs of operation and maintenance of the service, as well as all the upgrading and "modernization" of the company's management systems. These costs are financed by Aguas de La Habana through revenues generated from tariffs (interviews B, D and F).

Upon signing the contract, AgBar provided two loans for the start-up of the new company in addition to its US$4 million initial investment. One of these loans, for US$6 million, was given to Aguas de La Habana to purchase equipment and undertake repairs to the company's installations. Aguas de La Habana must repay the loan from the company's own revenues generated through tariffs. The loan has a 25-year maturity, with an interest rate of 10% in the first year and a variable rate every year after that set against the LIBOR[8] (interviews C and F). At the time of research, the annual interest rate stood at 6% (interview F).

The second loan from AgBar, for US$18.7 million and on the same conditions, was given to INRH for immediate investments in infrastructure when the company was first formed (interview C).

Approximately 90% of this loan was specifically earmarked for investment in distribution rather than in expanding supply (for example, through new wells). The Cuban government, through INRH, guaranteed this infrastructure loan with the revenues from Aguas de Varadero, meaning that should INRH ever fail to repay it, AgBar has the right to claim the revenues from the Varadero operation in order to clear the debt (interview F).

The practice of a multinational company such as AgBar providing its own financing for a subsidiary public–private partnership is unusual. In this case, sources claimed that it is a way for the Cuban government to leverage financing on the international capital market that it otherwise would not be able to secure. In other words, AgBar could lend to Aguas de La Habana and the Cuban government (INRH) on better terms and/or more easily than they themselves could otherwise borrow privately (interview B).

Aguas de La Habana also pays 50% of its net revenues as a "levy" to INRH. In 2004, this levy totalled US$700,000 (interview F). The remaining 50% of net revenues is apportioned as follows: 5% is retained as a legal reserve in the company's accounts; another portion is paid out to workers as a "stimulation" fund or bonus; and what remains is disbursed as dividends to the private investors, AgBar and Martinón (interview F). Some sources estimate that these dividends on average amount to approximately 25% of the net revenue generated by the operation of the service (interview C). No information was available to confirm whether this contract, like many other private sector water contracts elsewhere in the world, included a guaranteed rate of profit for the foreign investor but it appears that this is not the case and that, instead, profits for AgBar and Martinón fluctuate based on the company's year-to-year performance.

As a result, the financial arrangements of this joint venture entail very little real capital contributions from AgBar. The multinational provided a total of US$28.7 million for the creation of Aguas de La Habana. However, only US$4 million of this was actual investment, while the remaining US$24.7 million was provided as loans to Aguas de La Habana and to INRH that both entities must repay with interest. In the place of substantial net capital contributions, AgBar brings new technology, expertise, and managerial and technological "know-how",[9] while the state shoulders the burden of actual investment in infrastructure for the length of the contract. Thus, from the perspective of the state, it is not so much the *quantity* of resources committed to water services in Havana that has changed, but rather the financing and management *strategy*. According to several sources, the benefit of private sector involvement comes from the more "modern" management style of the private company and a shift to a more integrated water resource management strategy at a national level. One analyst suggested that it was AgBar’s “prestige” or influence that finally prompted this change to more efficient management and delivery, something that had apparently been suggested to the government by Cuban specialists long before but never heeded (interview B).

Management and Organizational Structure

Aguas de La Habana is overseen by a *Junta de Accionistas* (Board of Investors) composed of government and AgBar representatives. This Board appoints the advisors that sit on the Administrative Council, the highest governing body of the company, which includes the top managers from the company as well as delegates from INRH. The Administrative Council approves the budgets and investment plans of the company. The Management Council is responsible for the day-to-day management decisions of the company and the implementation of the directives of the Administrative Council, to which this body reports. The distribution of net revenues (to INRH, AgBar and Martinón) is proposed by the Management Council and is subject to approval by the Board of Investors (interview C).

There is a co-management structure for the most senior positions within the company itself. This means there is a Spanish Director from AgBar who works alongside his/her Cuban counterpart, and similarly two Vice-Directors. Since the creation of Aguas de La Habana, there has been a gradual changeover in senior management positions. At the outset, most department directors were Spanish, seconded from AgBar, but over the years these have been replaced by Cuban managers. At the time of research, there were only three remaining Spanish managers: one Director and one Vice Director (permanently in the company’s organizational structure), as well as the Director of the Financial Department (interview D).

Labour Restructuring

With the introduction of new technologies and computerization of the company’s operations, in particular the monitoring of the distribution network, some positions were made redundant. Workers who were laid off are covered by state regulations that require the company to find new employment for them elsewhere. While unemployed, workers are first paid their full salary for 30 working days, and 60% salary thereafter until the company finds the former employees new work (Gobierno de Cuba 2001; interview D). Sources in the company suggested that overall very few workers were laid off when the company was formed and, instead, management took advantage of retirements and resignations to reduce personnel number. These vacancies would either not be filled if the positions had become redundant, or workers would be transferred into these positions from areas of surplus personnel (interviews C and D).

Table 1: Tariff structure for metered users, as set in 1998

Household usage per month (m^3)	Pesos/m^3
0–3.0	0.25
3.0–4.5	0.50
4.5–6.0	0.75
6.0–7.5	1.00
>7.5	1.50

Source: Gobierno de Cuba (1998b).

When the company was first created, it had a workforce of approximately 2500. By 2005, that number had been reduced to 2221, with plans to bring it down further to 2000 (Aguas de La Habana 2005a; interview D). Aguas de La Habana pays its employees directly in pesos, rather than contracting them through the government and paying wages indirectly through the state in dollars. This greatly reduces the company's personnel costs and allows it to achieve cost recovery and remain solvent in the peso sector.

Tariffs and Cost Recovery

The tariff structure for Aguas de La Habana is substantially more complicated than in other parts of the world. Tariffs are set by the Ministry of Finance and Prices and legislated into law by the Council of Ministers (the supreme legislative and executive body in Cuba), and thus are applied universally throughout the country to all utilities (with foreign investment or not).

As noted earlier, in October 1994 a flat rate tariff for all non-metered domestic users was re-introduced for the first time since 1968. The tariff was set at one peso per person per month for every member of the household. For sanitation services, the flat rate tariff was set at 30 cents per person per month. These flat rates still apply today. With an average Cuban salary in 2003 of 273 pesos per person per month (Gobierno de Cuba 2005), this meant that a household of four people, with one income, spent approximately 1.5% of monthly income on water—a nominal fee and cheap by international standards.[10] Rates for metered domestic users were initially set for customers of Aguas de Varadero and Aguas del Oeste in 1998 (see Table 1). Dollar tariffs were introduced shortly after domestic tariffs in 1994. This structure was to be applied to all institutions, companies, and individuals who received income in dollars. As noted previously, some have argued that this dollar tariff was motivated by the Varadero concession (interview B).

Official documentation of the dollar tariff levels was unavailable but some estimates were obtained from sources in Aguas de La Habana. There appear to be different tariffs for various sectors—hotel, industry, and so on—and all consumers who pay in dollars are metered (ie there is no fixed flat rate tariff). For industrial users, the rate is US$0.30 per cubic meter in the first block (the exact volume is unknown but is considered "reasonable"), with the rate increasing to US$0.60 per cubic meter for consumption after that. Dollar tariffs for sanitation are 20% of those for water (interview F).

The peso and dollar tariffs have remained the same since they were universalized in 2000 (interview F). Since that time, Aguas de La Habana has made three petitions to have tariffs increased and although these have been approved by INRH they have been rejected by the Ministry of Finance and Prices and the Council of Ministers, which have the ultimate authority on tariff setting. Aguas de La Habana was expecting to make another request for an increase in the dollar tariffs of approximately 20% in 2006 (interview F), and further investigation has not indicated that the request was successful.

These two tariff structures apply, in theory, to different user groups. Enterprises generating dollar revenues—hotels, tourist restaurants and retail stores—pay their water bills in dollars, while domestic consumers pay in pesos. This was designed to generate greater revenue from those who can afford it to finance service delivery for those who earn less but on whom the government refuses to impose prohibitive tariffs.

There are some users, however, that complicate this distinction. Some domestic users, for example, are charged in dollars—an estimated 1423 of them in 2004—presumably on the basis that they earn income in dollars. The means by which this classification is determined is unclear (Aguas de La Habana 2005a). More importantly, several state-owned enterprises (without foreign investment) generate revenue in both dollars and pesos because their products sell to tourists and in dollar stores but are also sold in pesos. The state-owned dairy company, for example, generates dollar revenue from its sale of fresh products in dollar stores and hotels. The same company produces milk for children, distributed under the ration system by the government as a guaranteed basic foodstuff. In these situations, the Ministry of Finance and Prices determines whether this enterprise, which earns dollar revenues but is also considered to provide an essential public good, should be charged for its water consumption in dollars or pesos (interview B).

Aguas de La Habana feels it loses potential dollar revenue from these users. These decisions are entirely at the discretion of the Ministry of Finance and Prices, which often decides to switch users into the peso stream and back, without explanation to Aguas de La Habana. This causes some to feel that the government uses pricing as a form of political favour for certain institutions and enterprises, and that it unjustly compromises the company's performance (interview F). In the 2004 fiscal year, the number of large consumers exonerated from dollar tariffs (ie switched into the peso system by the government) resulted in US$390,000 in lost dollar revenues for the company (Aguas de La Habana 2005a).

The existence of a dual tariff system also means that Aguas de La Habana operates two parallel budgets (one in pesos and one in dollars). This is possible because of three key exceptions that were made to Law 77 governing foreign investment and joint ventures to facilitate the creation of Aguas de La Habana. The first of these exceptions was to grant the company authorization, under article 27, to make certain payments or purchases in Cuban pesos. Joint ventures that are not granted this exception are otherwise required to operate entirely in foreign currency, thus generating much-needed foreign exchange for the government through taxes, procurement from state companies, and so on (Gobierno de Cuba 1995).

By allowing Aguas de La Habana to handle domestic currency, it was possible to grant the company permission to directly employ its personnel and thus pay their wages in pesos. Normally, Article 33 of Law 77 stipulates that companies with foreign investment must contract their workforce from the Ministry of Labour and Social Security, pay its workers' wages in dollars to this ministry, which in turn pays the workers in pesos (Gobierno de Cuba 1995). In the case of Aguas de La Habana, the company is allowed to employ its workforce directly in pesos, substantially reducing labour costs for the company and allowing it to achieve cost recovery and remain solvent in the peso sector.

The third exception was to allow Aguas de La Habana to purchase its electricity from the state in pesos, rather than dollars. This exception is unique to Aguas de La Habana. Because electricity costs for water service delivery—for extraction, pumping, purification, and distribution—are so high, this represents a substantial savings for the company. Some sources indicated that this concession was made in order to make the Aguas de La Habana contract more lucrative for AgBar and entice the multinational to participate in the operation despite other less inviting circumstances (such as strict tariff controls, labour legislation, etc) (interview D). Other sources stated that this decision was made simply to make the company financially viable, because its revenue base in dollars would not have allowed the company to recover all its dollar costs, especially its electricity costs (interview E-1).

As a result of these exceptions, and because of the dual tariff system, Aguas de La Habana operates two parallel budgets. The peso sector is fully cost recovering, meaning that all its operating costs in pesos are recovered through the revenue it generates from peso tariffs (Aguas de La Habana 2005b; interviews E-1 and F). The largest expenses in the company's peso budget are electricity and personnel costs. In 2004 the company generated 33,773,300 pesos (approximately US$1,378,500) in revenue from these tariffs (Aguas de La Habana 2005b). Currently the company has approximately 360,000 peso customers, the majority of which are residential, and only 12.6% are metered (interview F; Aguas de La Habana 2005a).

All purchases of equipment, technology, materials and other inputs made overseas—as well as most of those made domestically—are paid out of the dollar budget (Aguas de La Habana 2005d). The company's dollar sector is also fully cost recovering (Aguas de La Habana 2005c; interviews E-1 and F). These operating costs include investments in equipment and operating infrastructure, originally financed through the loans from AgBar (interview F). In the 2004 fiscal year, the company generated US$10.6 million in revenues through dollar tariffs, the majority from commercial users, hotels, and industrial users (interview F; Aguas de La Habana 2005a). There were 5091 customers paying dollar tariffs in 2004, 1423 of which were residential (Aguas de La Habana 2005a).

Regulation

INRH acts as the principal regulator of Aguas de La Habana. The company's management must report regularly to INRH on its performance and progress, and a senior INRH official sits on the company's Administrative Council which approves all decisions made by the senior management. But unlike public–private water partnerships in other parts of the world, where the regulator's role is restricted to regulation activities, INRH is also responsible for all new investments in infrastructure in Aguas de La Habana. This raises flags about the degree to which INRH can successfully carry out this dual role without generating conflicts of interest, and begs the question of how and to whom INRH itself is held accountable for its investment decisions, a fact that has not escaped government officials involved (interview E-1).

Progress to Date and Future Plans

Since 2001, the company has laid approximately 160 km of new pipes, at an average rate of about 50 km a year. By the end of 2002 the company had managed to eliminate the use of tankers to deliver water to neighbourhoods that did not receive piped service. This was considered a great achievement for the company, as delivery by tanker had become a notorious symbol of the poor state of the city's water infrastructure (interview D).

In 2003, however, a major drought hit the country, and although the eastern provinces suffered most severely the shortage dramatically lowered the water table in and around the city of Havana. As a result, the company had to begin servicing the worst hit areas of the city with water tankers once again and reduced service times in other areas to compensate for the diminished supply. To date, only one district in the municipality of Habana Vieja—representing approximately 24,941 customers—still relies largely on tankers for service (Aguas de La Habana 2005a). Tankers are also still used occasionally in other municipalities when service is affected by ruptures in the infrastructure, power outages, or in the case of hurricanes (Aguas de La Habana 2005a). Despite these setbacks, the company managed to reduce the number of times tankers were sent into neighbourhoods from 130,092 visits in 2000 to 53,538 in 2004 (Aguas de La Habana 2005a).

In 2000, water was available in Havana for an average of 8.22 h/day. This increased to a high of 9.4 h/day in 2003, but by the end of 2004 fell to 8.9 h/day as a result of the impact of the drought (Aguas de La Habana 2005a). Approximately 56% of the city's population receives daily service (Aguas de La Habana 2005a).

There are still severe problems of leakage throughout the system despite the investments in network rehabilitation that have been made. The company records an average of 1000 leaks or ruptures per month, predominantly in the areas of the city where older infrastructure has not yet been repaired or replaced (interview D). The company apparently faces obstacles to infrastructure repair in part because its supply of asphalt from overseas is erratic, thus limiting the amount of underground roadwork the company is able to undertake (Aguas de La Habana 2005a; interview D).

Some senior managers at Aguas de La Habana hope to see the company become totally "self-sufficient" in the long term, meaning that it would be able to cover all of its operating and capital costs with the revenue it generates from tariffs (interview F). With this goal in mind, and to be able to increase the pace of rehabilitation, management was hoping to secure a 20% increase in dollar tariffs in 2006. According to senior financial managers, the dollar market in Havana is already fully captured; that is, there is little expectation of further growth in the hotel sector in Havana and as such the company cannot expect to generate greater dollar revenues through increased consumption. Therefore, increased revenue can only be generated through higher dollar tariffs (interview F). The company does not, however, want to increase tariffs in pesos (ie domestic tariffs). Because "that sector is already generating revenue, it is not necessary to generate any more. Pesos are not of much use to [us]—with them we cover important expenses, salaries and electricity, but we have no need for any more" (interview F).

Is Aguas de La Habana a Success?

In many ways, Aguas de La Habana and the reforms that facilitated its foundation can be seen as a success, particularly in light of the serious external dislocations that framed its formation. Unlike many other private water ventures in countries in the South, there have been substantial improvement in water services and significant investments in infrastructure without an increase in the cost of services to Cuban residents. There also appear to have been relatively few reform-related job losses and no apparent job worsening for labourers. Finally, there is relatively strong regulation of the concession by central government authorities and a seeming commitment to equity and improved service delivery.

On closer examination, however, many of these processes and outcomes reveal deeper underlying problems, both for the water sector itself and for the larger social and ideological fabric of the Cuban revolution. The concluding sections of this paper look in more detail at some of the key problem areas.

Capital Sources and Revenue Generation

One of the main justifications for partnering with AgBar was access to capital. In reality, AgBar contributed only US$4 million in start-up capital in 2000—a small contribution when compared to other public–private partnerships (PPPs) around the world—and this amount was matched by INRH. Another justification was access to loans. Sources interviewed for this research stated that INRH undertook the joint venture to secure loans through AgBar. The reason for this is said to be that the Cuban government cannot obtain credit from international financial institutions such as the International Monetary Fund or the World Bank and that the US embargo complicates Cuba's access to private capital markets and banks that have ties to American banks.

It is difficult to determine the degree to which this forced Cuba into a private joint venture. Divergent accounts exist. Mesa-Lago (2001) has argued that Cuba's poor credit history makes it difficult to obtain affordable debt, while others suggest Cuba is able to successfully obtain loans from other countries, under unspecified conditions. Mesa-Lago (2001) admits that Cuba negotiated loan agreements with the UK, Belgium, and Japan in 1999–2000, and throughout the 1990s the government renegotiated outstanding debts through purchases of Cuban goods with Japan, the UK, and Mexico (Cole 1998). In addition, the Cuban government negotiated several debt-for-equity swaps with creditors in the 1990s as a means of renegotiating outstanding loans (Hall 2004; Simon 1994). Finally, Cuba has been able to negotiate trade with other countries, in particular Venezuela, on very favourable terms (preferential rates and deferred payments on oil). The possibility exists for Cuba to continue to receive such preferential treatment from Venezuela in a number of sectors, which could perhaps serve as an avenue for accessing more affordable credit than that available on private capital markets or from other bilateral arrangements (Monreal 2006).

The question, then, is whether the Cuban government, and INRH in particular, could not have pursued these other channels for obtaining capital to rehabilitate Havana's water infrastructure in the 1990s—capital that could have been cheaper, that would not have involved the private sector, and that would not have required ceding decision-making power and operational responsibility to AgBar.

We can also question the need for a joint venture in improving revenue generation. Although Aguas de La Habana has reduced unaccounted-for water and is able to cover its operational costs from tariffs, *all* utilities in Cuba are required to be self-sufficient, whether they operate with foreign capital or not. The implementation of *autogestión empresarial* was precisely intended to decentralize the management and operation of water services to local utilities so that they could operate on a cost recovery basis. Therefore, it is hypothetically possible that if Aguas de La Habana did not have foreign capital participation—that is, if it had remained a municipally operated utility—it could still have become fully cost recovering and therefore no longer required central state subsidies.

Furthermore, there are important elements of the contract that represent lost potential revenues for INRH and the Cuban government. The decision to allow Aguas de La Habana to purchase its electricity from the state in pesos rather than dollars is one example. The permission for Aguas de La Habana to pay its workforce directly in pesos represents a similar loss of potential dollar revenue for the government. Both points contradict one of the key motivations of the government's program to pull the economy out of the Special Period: generating foreign currency.

"Know-How" and Technical Expertise

The most cited and hailed benefit of AgBar's participation in the Havana contract is the technology and management "know-how" that it has contributed—technology and expertise that allegedly was not available within the ranks of the municipal utility or INRH (eg advanced technology such as Geographic Information Systems to monitor leaks as well as equipment and technical skills for repairing and rehabilitating network infrastructure). Presumably, this meant that the Spanish directors and managers imported from AgBar were more experienced with the management principles introduced through *autogestión empresarial*, such as full cost accounting, than their Cuban municipal counterparts.

It is difficult to determine what the potential may have been for INRH to develop this expertise internally or to gain access to new technologies without involving AgBar as a partner. One can ask, however, whether the creation of Aguas de La Habana was a matter of necessity or simply a matter of political choice. INRH could have, for example, obtained management expertise through a short-term consultancy contract with a private company that would not have involved granting 50% control to a foreign private operator. More importantly, INRH could have solicited a consultancy for management or operating expertise with other public service organizations in Latin America, similar to the "public–public partnerships" (PuPs) that have been implemented in other countries in the region and where public water companies have contracted out their consulting services to other public utilities as an alternative to private sector cooperation in the form of PPPs. The municipal water company in Porto Alegre, Brazil, has participated in these "public sector consultancies", for example, offering technical and managerial expertise to other municipal utilities that have preferred not to turn to the private sector for this kind of assistance (see Hall 2000; Hall et al 2002; Hoedeman and Kishimoto 2005).

The Cuban government could perhaps also have accessed technology or expertise through aid or bilateral cooperation with sympathetic trading partners, similar to its oil-for-doctors deal with Venezuela in 2004 (Monreal 2006). Furthermore, many of these new technologies and management techniques are capital intensive, increasing the overall capital costs of the operation and thus raising the bar for revenue generation in order to recover costs. Many of these technologies are labour saving as well, with negative implications for the labour force (interview D).

Entrenching the Private Sector

From the perspective of AgBar, the Aguas de La Habana joint venture does not offer the same benefits to the private operator as public–private partnership contracts in other countries (see Hall 2002; Montemayor 2003): its profit rate is not guaranteed; it has virtually no control over tariff setting; it must operate in two currencies, both of which are heavily regulated by the state; it is required to pursue infrastructure improvements for which final approval and financing comes from the public partner; and all possible punitive measures for non-payment are strictly regulated by the state, thus preventing the company from engaging in cost-saving measures through service cutoffs. What, then, could AgBar's motivation be to pursue such a joint venture?

Besides an indirect interest in ensuring water supplies to the Sol Meliá chain of hotels, it can be argued that AgBar is looking to entrench itself in the Cuban water market in the longer run. There is growing concentration and consolidation in the global water industry, and firms are increasingly seeking out new and different opportunities to engage in accumulation (see Hall 2002). As Swyngedouw (2005:88–89) argues:

> in the context of geographically limited supply and demand, in which most companies operate while simultaneously being exposed to a

> rapidly globalizing competitive environment, there is a tendency for privatized water companies to internationalize activities, either by bidding for new concessions, by taking over existing privatized water businesses elsewhere, by means of mergers, acquisitions and/or diversification into other sectors, or by selling their "know-how" overseas (Swyngedouw 2005:88–89).

AgBar sold itself to the Cuban government on precisely the pretext that it could provide the expertise and "know-how" that the state did not have. However, assuming full ownership and control of the service in Havana would have entailed significant financial risk for AgBar at a time when most global water companies are retreating from risky ventures, particularly in Latin America, and are looking to displace financial risk to other partners (see Davis 2005; Lobina and Hall 2003; Robbins 2003) (an arrangement that the Cuban government would surely have opposed in any event). Instead, AgBar positioned itself to manage and operate the service in a relatively risk-free environment in which the state shoulders the vast majority of the capital investment. Although Aguas de La Habana might not generate windfall profits for AgBar, it does generate modest and relatively risk-free returns while at the same time allowing the company to forge further inroads into the Cuban water sector.

This latter consideration is significant. By the time the Havana contract expires in 20 years the regulatory and economic environment in Cuba might be very different to what it is today. AgBar may be hedging its bets against this possibility, with contracts such as Aguas de La Habana being part of a long-term strategy in which it is willing to accept lower returns at the outset to "get its foot in the door".

Failure of the Regulatory Agency?

We have already questioned the ability of INRH to effectively act as regulator and investor in Aguas de La Habana. There are no formal mechanisms to negotiate this potentially contradictory relationship and no concrete targets in the contract against which the operator's performance can be measured. The rationale given for this arrangement is the "mutual trust and climate of transparency" that exists between INRH and AgBar (interview C) but it is unclear that these conditions can be sustained in the long term.

Another concern relates to the potential for short-term service improvement strategies to be adopted at the expense of longer-term investments because the former are most likely to generate a profit. In other parts of the world, privatized utilities are more inclined to expand the water supply to new areas than repairing leaky infrastructure because the former encourages greater consumption and greater revenue. As a result, profit-driven operations tend to reinforce a "productivist" logic rather than encouraging water conservation (Lobina and Hall

2003; see, for example, World Bank 2002). Although regulatory agencies exist to protect against this kind of behaviour, the neglect of long-term investments can continue unabated because many public–private partnerships leave the burden of long-term fixed capital investments to the public sector, while the private partner organizes the more profitable operation and management aspects of the system (Swyngedouw 2005).

To some degree, this scenario exists in Havana. Although the thrust of Aguas de La Habana's operation and maintenance strategy has been to rehabilitate the old and leaky infrastructure of the city's network, it is an easy success for the private side of the company to boast. After all, Aguas de La Habana is able to pursue investments in infrastructure repair and replacement because it is the government, not AgBar, that pays for this work under the concession agreement. In other words, this is not a regulatory success on the part of INRH but the outcome of a contractual arrangement that relieves the private partner of this responsibility. All of which brings us back to earlier questions about the benefits of this joint venture: if long-term fixed capital investments are underwritten by INRH, why could similar improvements not have been accomplished by INRH alone, *without* involving a private sector partner?

Cost Recovery and Tariffs

It is common in situations of privatized water service delivery for dramatic price increases to occur. By the logic of privatized service delivery, this is done to allow prices to reflect the "true" value of the good and thus improve its revenue generating capacity and encourage conservation. Price increases are thus a central part of cost recovery in privatized systems, because it is by this same logic that utilities are expected to be self-financing, downloading these costs onto the end user. This is why cost recovery is such an important dimension of privatization and commercialization, signalling the changing imperatives that drive the setting of prices for water, shifting the focus away from accessibility and equity. Focused on the bottom line, privatized or commercialized utilities with their atomized or ringfenced decision-making and financial structures have frequently resorted to price increases, sometimes very drastic ones, to meet their revenue needs. This has led to serious problems of inequitable access and disproportionately burdens the poor with high and unaffordable costs (see International Consortium of Investigative Journalists—ICIJ 2003; Kessides 2005; Lobina and Hall 2003; McDonald and Pape 2002).

In Cuba, the involvement of the private sector in water service delivery since 1994 has led to small increases in domestic tariffs and the elimination of a free lifeline for metered domestic consumers. However, these increases have been very minimal, and for the majority of domestic users the impact is insignificant, while increases in dollar tariffs have been used to improve services for all.

From the perspective of accessibility for domestic users, therefore, the dual tariff system is positive. However, there could be significant drawbacks. The dual tariff structure could act as an incentive for Aguas de La Habana to focus its repair and rehabilitation work—and therefore improvements to the quality of the service—on those consumers that pay in the dollar stream, such as hotels, tourist businesses, and industry. This would amount to a form of "cherry-picking" whereby service improvement efforts are focused on those areas that generate the most revenue for the company, a common problem in other public–private partnership situations (Hall 2002). Ostensibly, investment responsibilities have been arranged in such a way as to prevent such a practice from occurring, by leaving the burden of investment in the hands of INRH so that it can act as a counterweight to the company's potential tendency to favour affluent consumers (interview B). This arrangement would only protect against cherry-picking, however, if the officials at INRH and on the company's Administrative Council held different priorities. This does not necessarily seem to be the case, as it appears that some officials within INRH are just as concerned with generating dollar revenue and achieving full cost recovery as the managers of the water company.

Furthermore, the fact that Aguas de La Habana has not dramatically increased tariffs is not so much a success of the private partnership as it is the result of a strong role of the central state in all aspects of the Cuban economy, including the setting of water tariffs, and the state's firm commitment to accessibility and equity. The same is true of the existence of the dual tariff structure and the belief of central government that those who have more (eg the tourist industry) should pay higher prices for basic services, and that the average Cuban citizen should not be burdened with dollar tariffs—all of which raise questions about the replicability of Aguas de La Habana's "success" in non-socialist states.

Moreover, while the use of dollar tariffs to subsidize service provision to domestic consumers can be beneficial in terms of redistribution and equity, the division between users in the dollar and peso sectors is not so clear cut. There are individual and domestic users that are required to pay their water bills in dollars, such as *paladares* (family-run restaurants operated in the home itself) and *casas particulares* (guesthouses where tourists are allowed to rent out rooms in a person's home). These businesses are family-owned, often relying on free family labour, and can be the sole source of income for a household. These forms of "self-employment" are heavily regulated and taxed by the state, and their revenue generation pales in comparison to larger industrial and commercial consumers such as hotels (Carmona Báez 2004). Furthermore, there are many consumers in the peso sector that perhaps should be paying in dollars (large consumers—some industries, businesses, government departments), but are exonerated by the government for reasons that may not be grounded in a redistributive ethic (interviews B and F).

SPE as Ideological Shift?

The SPE is a crucial turning point in the Cuban political economy. The history of its development demonstrates that the Special Period was *not* the motivation for the SPE and the host of reforms that complemented it. Rather, the Special Period served as a catalyst for introducing reforms that had been incubating for several years, providing an opportunity for nascent market logics to become further entrenched among Cuban policy makers.

Some analysts believe the SPE is as much a marketing strategy as it is a means of increasing the productive capacity of the economy. It provides the Cuban economy with a competitive, entrepreneurial, and high-efficiency image that, in conjunction with Cuba's continued emphasis on social development, is attractive to foreign investors (Carmona Báez 2004). Cuba's ability to sell its combination of efficient production and a well-educated workforce has been a central part of the government's strategy to promote foreign investment. Thus, the SPE helps prove to the world that Cuba too can "run like a business".

Much is made in Cuba of the "socialist essence" of the SPE, but questions remain about what makes it socialist and what distinguishes it, and its effects, from the search for greater productivity in capitalist contexts. Issues of particular concern include the tying of wages and material incentives to productivity. The discourse of the SPE purports to use these means to "unleash" the productivity and creativity of workers and promote more efficient production. But these practices also mean that there is an increasing difference between wages for managers and labourers, a separation of mental and manual labour in a sense, a dynamic that contradicts one of the fundamental tenets of socialist practice. In conjunction with the emphasis placed within the SPE on management, and the crucial role managers play in improved production, this may be leading to a growing and problematic stratification of labour within the productive process (see Carmona Báez 2004; Dilla 1999; Echevarría León and Blanco Rosales 2002; Massip 2005).

The focus on "profit" or "surplus revenue generation" also raises concerns, particularly in the case of foreign investment and joint ventures. While there has been debate among socialist theorists regarding the nature of profit in socialism, the issue becomes more salient in the context of profit generation for foreign investors that does not remain as productive investment within the "socialist enterprise" (see Massip, Hernandez Garcia and Nerey Obregon 2001).

Finally, many analysts argue that the "socialist essence" of the SPE is fundamentally based on the continued state ownership of the "principal" means of production, which therefore infuses an inherently redistributive and equitable logic to production. In other words, the fact that some of the means of production are owned by a "socialist" state necessarily means that all production is directed at achieving the maximum social benefit (see Massip 2005; Pons Duarte 2003).

There also appears to be some difference of opinion among Cuban academics and bureaucrats over the aims and purpose of the SPE in terms of its impact on socialist production. Some have argued that "efficiency and effectiveness in public administration is not a means of transferring "entrepreneurial logic" from the enterprise to the state, but rather the other way around. Based on the logic in which the role of the state is situated, the behaviour of the enterprise, which is the economic foundation of the State, has to be defined and designed" (Pons Duarte 2003:14). Over the course of this research, however, the majority of sources indicated that the SPE—and *autogestión empresarial* in the water sector—were "superior" forms of economic management that provided a degree of efficiency that was simply not available through centralized state production (interviews B, C and E-2).

Autogestión Empresarial as Corporatization?

The *autogestión empresarial* reforms in the water sector exemplify this shifting ideology of "new public management". They represent the incursion of market-based management mechanisms into water services that are striking in their similarity to corporatized public sector reform strategies in neoliberal contexts, such as the (partial) ringfencing of service units, decentralization, and the implementation of cost recovery models (in another context see McDonald and Pape 2002). The Aguas de La Habana joint venture is the fullest expression of this new ideological landscape and has thus contributed to its further entrenchment.

There are, however, important differences between what has happened in Havana and corporatization trends elsewhere. Most corporatized utilities around the world are fully ringfenced, meaning that their incomes and expenditures are isolated from other parts of the public budget in order to effectively calculate operating costs and therefore achieve cost recovery (see Bollier 2003; Shirley 1999; Whincop 2003). In Cuba, the INRH continues to cross-subsidize municipalities that cannot recover all their costs (particularly dollar costs) and continues to exercise important central control over the financial resources of all water utilities.

Corporatization also institutionalizes private-sector thinking and values that can come into conflict with characteristics of water as a public good, essential service, or basic human right, all of which are principles the Cuban government prides itself on protecting. It appears that state officials are aware of these risks. Cuba's *autogestión empresarial* seeks to make water service delivery "run like a business", but according to one INRH official, it is a search for "ever more efficient forms of management under the principles that rule in [Cuba] and especially in this sector", in particular that "the ultimate end is not financial gain but rather to always improve the quality of service, respecting the fact that it is a public service, that the tariffs have to be accessible, that the majority of consumers are the general population" (interview E-2).

Nevertheless, government officials interviewed for this research unreservedly believed that private sector involvement has improved Havana's water services in ways that would not otherwise have been possible, and that Aguas de La Habana's success is owed entirely to the participation of the private partner and to the introduction of market-like operating principles. It is this conviction that suggests a new philosophy of service delivery—premised on ideas of private sector efficiency and expertise—has taken hold within sections of the Cuban bureaucracy.

In these convictions we see echoes of the discourses of public sector reform elsewhere in the world. Discursive strategies that have been at work in the Cuban water sector mirror, in many ways, those that have been used in market-based economies. In market contexts, policies of privatization and commercialization "are embedded within a wider discursive and ideological frame that renders [privatization] not only legitimate, but normatively desirable" (Swyngedouw 2005:82). The construction of "scarcity" plays a key role in advancing this strategy of legitimation by introducing an environmental and resource wastage dimension. This "discursive build-up of a particular water narrative and ideology" serves particular economic, political, and policy objectives by creating a "climate of actual, pending, or imagined water crisis [that] not only serves to facilitate further investment in the expansion of the water-supply side ... it also fuels and underpins drives towards commodification" (Swyngedouw, Kaïka and Castro 2002:133; see also Bakker 1999, 2007; Robbins 2003).

Although the economic context and policy objectives in Cuba are clearly much different than those of neoliberal states, similar discursive strategies have been employed. The fiscal crisis into which the Cuban economy was plunged following the collapse of the USSR created the material conditions in which commercialization could be viewed as legitimate, or at the very least necessary, if not desirable. In conjunction with the shifting ideological policy terrain—in which Cuban technocrats were looking to market mechanisms and methodologies to restructure the Cuban economy and reinsert it into the global market—the Special Period lent a degree of urgency to the Cuban dilemma that made encroaching market logics more palatable and more naturalized. The state had been rendered materially incapable of performing its functions, making certain "pacts with the devil" more easily incorporated into national productive strategies. All of this further entrenched a growing openness to new management and organization approaches that was already taking place, in which discourses of market-like efficiency and the need to manage water scarcity gained new saliency.

The construction of "scarcity" in the Cuban water sector also played a strategic discursive role here. As the findings of this research revealed, several conflicting and contradictory explanations for the water "crisis" existed in Cuba, and especially in Havana, that were used to justify the need for foreign investment. Some explanations blamed historic mismanagement by the state, with an overemphasis on supply-side solutions, financial irresponsibility and a mentality of wastage because water was provided to domestic users for free (interviews B and D; Instituto de Hidroeconomía 1982). Others blamed the US embargo for Cuba's lack of access to capital, technology and equipment (interviews A, E-1 and E-2). However, all agreed that it was the severity of the Special Period that delivered the final blow to water service delivery in Havana and made conditions severe enough to require drastic action (interviews A and C). This same "crisis" discourse pervades discussion of the Special Period in general and, correspondingly, the discourse of "crisis management" pervades the reforms that were made to bring the Cuban economy out of the Special Period (see, for example, Saney 2004).

A "politics of the technological fix" (Swyngedouw, Kaïka and Castro 2002) followed from this "crisis management" and "scarcity" dilemma, as officials in INRH began to argue that the water sector's capital and technological needs, whether because of the need to "modernize" the sector or because the Special Period had left it crippled, could best (or perhaps only) be met through private sector cooperation.

The mobilization of notions of scarcity in the Cuban case is, of course, very different from its use in the context of neoliberalism, where the answer lies in greater production to facilitate the drive for further growth while downplaying the redistributive ethic. In Cuba, the growth imperative is not as strong and is framed within, and thus heavily constrained by, broader and sustained commitments by the state to the redistribution of consumption, investment and wealth. Nonetheless, narratives of scarcity and technological fix are representative of significant ideological/discursive shifts in which the mobilization of market logics—even in a non-market environment—is becoming more pervasive and increasingly a matter of "common sense".

This is of fundamental importance because it implicates the Havana case within the larger global privatization debate. Critics of privatization argue that its logic is flawed not only in its outcomes—that is, that it generally does not produce the outcomes it is expected to—but also in its very assumptions about the inherent merits and demerits of the private and public sectors respectively. The logic of privatization, however, has become hegemonic and it is this ideological currency and the material needs of accumulation that it serves, rather than the objective soundness of this policy instrument, that have driven the spread of privatization throughout the world—even if it has been uneven and haltered of late (Castro 2008; Harvey 2003; Swyngedouw 2005). Despite its differences, what is happening in Cuba appears in some ways to reflect this trend, with the case of Aguas de La Habana serving as an example of the new ideological paradigms that are increasingly shaping "common sense" even under socialism.

Conclusion: Water as Commodity?

Ultimately, reforms in the water sector must be framed within the broader context of the political and economic changes taking place in Cuban society which have brought market imperatives into many aspects of productive and social activity. Taken together, these reforms have created growing tensions and contradictions between their objectives (preserving the social gains of the Revolution and ensuring state survival) and their material consequences.

Several Cuba analysts have noted these changes and the potentially corrosive or "anti-Revolutionary" implications they may have (see Bengelsdorf 1995; Carmona Báez 2004; Cole 1998; Dilla 1999; Eckstein 2003). What they have identified is a "social bloc formation" (Carmona Báez 2004:196) arising from differentiated and uneven access to dollars and income generating opportunities (legal and black market). Dilla (1999:236) has called this a "virtual restructuring by international capital of the working classes and the wage earning sector in general".

This tendency has been exacerbated by the managerial reforms to production contained in the SPE which have actively encouraged the development of a "managerial-entrepreneurial bloc" as Carmona Báez (2004:173) has called it, or a "technocratic-entrepreneurial bloc" according to Dilla (1999:233), within state-owned companies, partly through the use of material incentives and performance-based compensation. In the case of joint ventures and companies operating under some form of collaboration with foreign capital, these new managerial strata have had even greater access to dollars, overseas travel, and contact with foreign professionals and their lifestyles (Carmona Báez 2004; Dilla 1999).

Taken individually these changes have been limited and dispersed. Collectively, they have created a more generalized stratification that is expressed through growing inequalities in living standards and conspicuous consumption. This nascent "class" formation has naturally generated a series of contradictions and tensions in Cuban society by increasingly bringing into question the economic and social equality that are intended to be the very basis of the Revolution, and are reorganizing the nature of social and political power (Dilla 1999). These growing contradictions form the backdrop to the potential for a growing consumer citizenship, where rights are increasingly framed by the economic transactions required to secure them. The contradictions created by this trend of social stratification lend import to the issue of water privatization and other market-based reforms in Cuba: they highlight the risks associated with introducing and increasingly relying on market logics, even in limited spheres, when the commodifying and stratifying effects of these logics prove difficult and complicated to contain.

It is these insidious and profound transformations that require changes taking place in Cuba today to be examined carefully to understand the risks and dangers they pose for the gains made by the Revolutionary project. The reforms discussed in this paper—the SPE and *autogestión empresarial*—were designed to preserve and protect the gains of the Revolution while staving off the threat to Cuba's socialist existence and at the same time containing and protecting Cuban society from being corrupted and infected by market values. A tall order, and one which this research suggests the Cuban leadership may have been less successful in fulfilling than they had intended. Inspired by their need "to think like capitalists but continue to be socialists" (anonymous Communist Party member, cited in Carmona Báez 2004:119), the Cuban government may have embarked on a path over which it has less control and whose outcomes may be less desirable than planned.

The water services situation in Havana therefore begs the question as to the degree to which these changes reflect a growing commodification of water and/or if this commodifying pressure is being adequately resisted or mitigated through the existence of parallel pricing systems. The existence of dual tariffs clearly does much to mitigate the impact of cost recovery on domestic consumers, and given that the price paid in this sector is so minimal (one peso per person per month) it has little relationship to the actual monetary costs of providing water (and even less to do with commodified labour relations that make up a truly capitalist economy). In this way, it could be said that the peso water sector, or more specifically the domestic consumer within the peso sector, remains non-commodified.

Conversely, it can be argued that the dollar sector is at least partially commodified because the price paid more closely reflects the full operating costs (in dollars) of the service provided, with these consumers also cross-subsidizing water in the peso sector. These costs have little relationship to the "quasi-commodified"[11] labour that produces them, but they are reflective of other market-driven price determinants.

As pointed out earlier, however, the distinction between consumers in the peso and dollar sector is not definitive, and this raises questions about the degree to which a non-commodified sphere exists within the Cuban tariff system simply by virtue of being protected by a tariff "firewall". If some consumers are disproportionately burdened by high tariffs in the dollar sector while others are disproportionately benefiting by being in the peso sector, then truly parallel and separate commodified and non-commodified systems do not exist. Thus, the boundaries between these two systems may be much more porous than intended.

This raises concerns about the way Aguas de La Habana operates in conjunction with other market-based policy reforms in Cuba, and how the *combined* effects of these changes interact with and magnify each other. In other words, the more intangible commodifying effects Aguas de La Habana may be having are amplified because they are occurring in a larger context of political economic reforms that in themselves are having unintended consequences. The result is that the commodifying effects of private sector participation in water service delivery may prove, in the end, to be much more insidious and difficult to contain than the state had hoped. Combined with a creeping commodification and nascent class formation in other sectors of the Cuban economy—tourism, energy, telecommunications, etc—water reforms need to be seen as part of a larger (potential) transformation of social relations in Cuba.

None of this is pre-ordained or unchangeable, of course, and the depth of commitment to socialist principles in Cuba should not be underestimated. As problematic as some of these water reforms may be, policy makers have maintained a strong grip on price and allocation decisions, ensuring access to water for all Cubans, essentially for free, and the state continues to manage other core services at levels that exceed neoliberal regimes elsewhere in Latin America. The increasing influence of Chavez's socialism in Venezuela, and the rise of the left more generally in Latin America, may also breathe new life and strength into socialist bureaucrats in Cuba.

An important consideration remains, however, about the question of leadership. The recent resignation of Fidel Castro, and his brother Raúl assuming the Presidency, signals an important change in Cuba. It was under Raúl Castro's watch that the SPE was developed and implemented in enterprises and joint ventures operated by the FAR before being legislated for use across the entire Cuban economy, and for many years he has been generally recognized as much more a pragmatist, even more "market friendly", than his brother. His move from the back rooms to the summit of political and ideological leadership may well bring with it the entrenchment of the market-based "common sense" thinking he spearheaded through the 1990s.

Water reforms are therefore one piece of a much larger puzzle, but the implications of Havana's joint venture are important. In a society in which social equality is unparalleled, and rights to basic services guaranteed, the risks of commodification and social stratification are high.

At the same time, elements of Aguas de La Habana that could be argued as "successful" should not be seen as such outside of the larger context of socialism in Cuba. As noted above, it is doubtful that the highly regulated, equity-oriented, non-productivist and non-commodified elements of the Havana concession could be replicated in a capitalist economy—at least not collectively—which says more about the success of socialism in Cuba than it does about the private sector nature of the water concession. Indeed, if the implications and insidious effects of the joint venture have proven difficult to contain even in such a highly regulated and ideological context, it is unlikely that this could be accomplished in more fully commodified market environments.

Endnotes

[1] The term "privatization" is used here to refer to a wide range of institutional models that involve private sector players, and private sector operating principles, in the management and operation of water systems. See McDonald and Ruiters (2005:14–24) for an extended discussion.

[2] There are two translations that we contemplated for the term "Sistema de Perfeccionamiento Empresarial"—one that calls it a System of Entrepreneurial Perfection, and another that calls it a System of Entrepreneurial Improvement. Situated in the historical, political, and discursive context of policy reform in Cuba, the Spanish name is meant to signify that the system for entrepreneurial management in Cuba is undergoing a process of being "perfected", and not merely "improved". Although in English, "Perfection" or "Perfecting" sounds exaggerated, it is the closest translation that communicates the intention and spirit of the name given to this set of reforms in Cuba. For this reason, we have used "Perfection" in the English translation, but will retain the Spanish name and acronym in the paper to avoid misunderstandings.

[3] The debate over the use of material versus moral incentives in Cuba has been contentious since the earliest days of the Revolution when new approaches to the use of labour power were inspired by Che Guevara's philosophies of the "New Man" under socialism (for a fuller discussion, see Petras 1998).

[4] Municipal councils in Cuba are composed of delegates elected directly by residents by district. These delegates then select a Municipal Administration Council, or executive council, which runs the daily affairs of local government. All local industries, including the water and sanitation companies, local union chapters, and other mass organizations are given seats on these councils (August 2004).

[5] The term "budgeted utility", translated from Spanish, refers to a utility operated entirely on the state budget, without any other significant source of outside revenue (ie generalized tariffs).

[6] Sol Meliá dominates the hotel and resort market in the Caribbean and Latin America and reported a net profit of 92 million Euros in the fourth quarter of 2005 (Sol Meliá 2005).

[7] In November 2004, the National Assembly passed Resolution 80 from the Central Bank of Cuba taking US dollars out of circulation in Cuba. All Cuban citizens, enterprises, and state institutions were required to exchange US dollars for other international currencies or for the Convertible Cuban Peso (CUC), which was nominally pegged at a 1:1 parity with the US dollar. In addition, under Resolution 92–2004, all enterprises previously authorized to carry out domestic and overseas transactions in

foreign currency were now required to seek approval for these transactions from the Central Bank, a move viewed by many as a clawing back of previous "liberalizing" measures (*Reuters* 2004). Although the CUC has appreciated slightly relative to the US dollar since that time, for the sake of simplicity all US dollar figures used here will be taken as equivalent to their value in Convertible Cuban Pesos.

[8] The London Interbank Offered Rate (LIBOR) is the rate at which banks can borrow from banks in the London interbank market. It is the most commonly used benchmark for short-term interest rates.

[9] Interestingly, several sources actually used the English word "know-how" during these discussions, rather than the Spanish equivalent, indicating perhaps the extent to which the discourse of private sector involvement has infiltrated technocratic circles in Cuba (interviews B, C, D, E-1, E-2 and F).

[10] In Cape Town, South Africa, for example, a household of four earning R500 (US$81) per month will spend 10% or more of their income on water (McDonald and Pape 2002:28). Unlike many other countries, the Cuban government also heavily regulates the penalization of non-payment for service. Service disconnection because of non-payment, a problematic and controversial issue in other cases of privatization, is only permissible as a final resort after other less punitive measures are taken (see Gobierno de Cuba 1995). Interestingly, the Law of the Environment permits service disconnections to penalize wasteful consumption by large (commercial or state) users and allows the managers of these institutions to be personally fined for such over-consumption (Gobierno de Cuba 1997; interview B).

[11] We have chosen to use the term "quasi-commodified" in reference to questions we have about the nature of labour in Cuba at present, and the degree to which it can be considered to be increasingly commodified. In the context of the dollarized economy in Cuba, wage determination on the part of the state has increasingly fallen out of step with wages in the tourist industry and other dollarized sectors. Thus, the fact that a doctor in Cuba—a revered symbol of the social hallmarks of the revolution—can earn more working in the service sector in a tourist resort than as a doctor in a state hospital raises questions about the extent to which wages reflect the real use-value of labour or to what extent they are becoming increasingly exploitative. This concern is compounded by the stratification of sectors, between managerial and labour, that is especially marked in joint ventures such as Aguas de La Habana—a stratification that reflects a division between "manual" and "intellectual" labour that contradicts some of the founding principles of revolutionary thought from the 1960s.

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Interviews

Interview A: 16 November 2004, Havana
Interview B: 25 November 2004, Havana
Interview C: 4 December 2004, Havana
Interview D: 7 December 2004, Havana
Interview E: two-part interview. E-1: 4 January 2005, Havana; E-2: 22 February 2005, Havana
Interview F: 21 February 2005, Havana
Interview G: 25 February 2005, Havana.

All interviews were with Karen Cocq, and were conducted in Spanish.