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## **Can regional cooperation deliver private investments for the water and sanitation sector in the Carribean?**

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Martin, Norline A., and M. Sohail. 2019. "Can Regional Cooperation Deliver Private Investments for the Water and Sanitation Sector in the Carribean?". figshare. <https://hdl.handle.net/2134/3879>.

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# CAN REGIONAL COOPERATION DELIVER PRIVATE INVESTMENTS FOR THE WATER AND SANITATION SECTOR IN THE CARIBBEAN?

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## ABSTRACT

Attracting private investment to the water and sanitation sector presupposes clear policy guidelines, a supportive legal framework and good regulatory governance. A multiple-case study strategy informed by interviews and documents was used to examine the operating environment in the water and sanitation sectors of Jamaica, Barbados and Trinidad and Tobago. The aim of the paper is to identify opportunities for regional cooperation to improve the operating environment for private investment in the Caribbean water and sanitation sector. The paper finds that sharing knowledge and experiences, overcoming capacity/capability constraints, providing centralised services in areas such as regulation, harmonising regional standards, and building alliances to strengthen bargaining power are practical ways of improving the operating environment for private investment in the Caribbean water and sanitation sector.

## INTRODUCTION

Investment in and the operation of water supply and sanitation infrastructure is a highly capital intensive undertaking. Developing countries spend about US\$30 billion a year on investments in water and sanitation but easily need twice that amount to serve those without essential services, to upgrade existing infrastructure and to avert environmental crisis in the future (Winpenny, 2003). Traditionally, up to 70% of this investment has been publicly financed. Government's capacity to satisfy this demand however is limited as growth of public expenditure is increasingly constrained by pressing social needs and the overriding need to maintain macroeconomic stability (McDavid, 2001). Significant investment needs and the budgetary constraints of many governments therefore make a strong case for alternative sources of financing in the sector.

In the mid-1990s, private investment sought to partially fill the financing gap in water and sanitation, reaching peak contribution levels of 10-15%. Since the late 1990s however, private contributions to the sector have declined as investors become more risk-averse following a series of 'problematic' water sector privatisations<sup>1</sup>. The prospect for private investment in water and sanitation is conditional on many factors. An environment of macroeconomic and political stability, policy credibility and the existence of a sound regulatory framework are necessary to lower investors' perceived risk and attract private capital to the sector (Pargal, 2003). Governments must therefore ensure that they purposefully create and foster an environment to attract private capital.

Regional cooperation strategies are pursued to gain advantage and generally refer or relate to the issue of size and its implications for economies, bargaining power and risk diversification (Vaitsos, 1978). For developing countries, regional cooperation is a vehicle by which countries can work together to overcome disadvantages that may impact on their development. One of the recognised benefits of regional integration/cooperation is increased attractiveness of the region for investment (Lim, 2001). This is because regional agreements are likely to increase overall efficiency and growth for participating countries by improving resource allocation and motivating institutions to do better, increase the size of the integrated common market and create friendlier intra-regional investment environments.

Regional cooperation is not new to the Caribbean. The Caribbean Community and Common Market (CARICOM) and institutions established by or under the auspices of CARICOM have been responsible for successfully formulating policies in relation to regional integration/cooperation strategies. *The aim of this paper is to identify opportunities for regional cooperation which can improve the operating environment for private investment in the Caribbean water and sanitation sector.* The paper is organised into six main sections. First we introduce factors that determine private investment in water and sanitation and look at the environment necessary to attract this investment. We then focus on the general concept of regional cooperation and its application in water supply and sanitation. A brief description of the research methodology follows. Case studies focusing on the operating environment for private investment in the water and sanitation sectors of Jamaica, Barbados and Trinidad and Tobago are then presented. Opportunities for regional cooperation are discussed in the penultimate section, followed by some closing remarks.

## **ATTRACTING PRIVATE INVESTMENT TO WATER AND SANITATION**

### **Influence of sector-specific factors**

Compared to other types of infrastructure<sup>2</sup>, water and sanitation attract considerably smaller amounts of private investment. Even during what was considered the 'privatisation boom' of the 1990s, water and sewerage projects attracted the lowest levels of private investment at 5.4% compared to 18.3% for transport, 33.3% for energy and 43% for telecommunications (World Bank, 2004). The reasons given for what amounts to below par private sector interest in water and sanitation are influenced by 'sector-specific factors' believed to have a direct consequence on the financial leverage of these investments (Haarmeyer and Mody, 1997; World Bank, 1997; Briscoe, 1999; Werkman and Westerling, 2000; Seppälä *et al.*, 2001). Like other infrastructure sectors, water and sanitation is characterised by large sunk investments with long payback periods. In contrast with other network utilities however, there is little scope for direct competition in any of the main operational segments – production, treatment and distribution. These features make the sector especially vulnerable to political intervention and contracting problems.

Investments made in foreign currency versus domestic currency revenue can create serious foreign exchange risks. The sector's low level of cost recovery attributed to inadequate tariffs, government subsidies in support of social policy commitments and poor collection rates is considered a major deterrent to private investment. Additional institutional and economic features impact on how the sector is perceived by the private sector. Inadequate provision of water and sanitation services is often associated with health and environmental risks with the effect that government has a strong interest in extending access to service regardless of ability to pay. This has resulted in projects characterised by low or negative net payoffs. On average, water supply and sanitation investments tend to be much smaller than in other infrastructure sectors because of the small fragmented size of the market. Proportionately higher transaction costs than for other infrastructure projects can therefore serve as an additional obstacle to private investment. The fragmented structure of the sector has also resulted in the establishment of many facilities subject to 'weak' management control.

### **Environment to attract private investment**

In light of these deterring factors for private investment in water and sanitation, what then constitutes an environment conducive to attracting this investment? The experience of the limited number of projects that have been structured with private capital highlight the following points:

- (a) the importance of government political and financial commitment;

- (b) the importance of a contractual and regulatory structure that minimises uncertainty, provides flexibility in renegotiation and operational autonomy; and
- (c) the importance of a transparent competitive tendering process to generate information on asset values, tariff levels and qualified operators.

For private investors, an important sign of government political and financial commitment is government's financial guarantee for the investment. In fact, the poor creditworthy status of many public water and sewerage utilities in developing countries often makes government's guarantee a prerequisite to securing private capital for the sector. The concerns of the private sector are not unfounded. The long payback period for water supply and sanitation projects often extending 20 to 30 years, makes them especially vulnerable to high uncertainty. This may take the form of currency depreciation, changes in input or output prices, changes in demand or changes in the scope of the project. While private investors try to anticipate such contingencies and factor them into the contract, unforeseen contingencies can occur requiring contract renegotiation. A regulatory structure that not only sets prices so that the private investor can realise a reasonable rate of return on investment but facilitates a fair and flexible arbitration process is therefore necessary. The long-term nature of water supply and sanitation projects also exposes private investors to the possibility of government reneging on promises. Deals that appeared attractive *ex ante* (before the fact) can become predictably less attractive to government *ex post* (after the fact) (Ramamurti, 2003). Changes in political leadership during the lifetime of a project can also affect private sector confidence. For these reasons, private investors are attracted to stable political and social environments where government has a good track record of honouring payment obligations.

The regulatory structure and its effect on private investment in water supply and sanitation require greater detail than the brief mention previously given. Private investors perceive regulatory risk – the risk of adverse regulatory decisions, to be one of the largest business risks in the water sector (Whelan, 2003). Again the underlying concern for private investors is the difficulty in writing time-consistent, enforceable long-term contracts that can cover all the necessary contingencies. How do you adequately set out the obligations of private investors in terms of service rollout and performance standards, as well as tariffs and/or the basis for revising tariffs for such a long-term commitment? Stern and Holder (1999) stress the importance of a regulatory system that is clear in its intent yet flexible and creative in its institutional framework. To increase the likelihood of the regulatory framework being acceptable to private investors, consumers and governments in the medium- to long-term, the following factors are crucial:

- (a) clarity of roles and objectives particularly between government and regulators;
- (b) autonomy from political intervention;
- (c) participation of relevant parties in contributing to the regulatory process;
- (d) accountability so that regulators' decisions can be challenged;
- (e) transparency in the decision-making process; and
- (f) predictability in the 'rules of the game'.

The key consideration of the private sector in what has traditionally been a public sector undertaking is the transfer of risk and the pricing and compensation for holding risk (Grout, 1997). The private sector's limited control over the demand and price of the service it sells to the public sector makes risk transfer difficult. Private investors are therefore more likely to be attracted to an environment where risks are allocated to the parties best able to deal with them, projects generate revenues that provide a competitive rate of return and there is confidence in the regulatory framework.

## **REGIONAL COOPERATION**

### **Concept of regional cooperation**

The term 'regional cooperation' is more frequently associated with political and economic regional integration in the form of free trade areas, custom unions, common markets and complete economic and political unions. Regional cooperation to realise the efficient operation of common services and activities (formally referred to as 'functional cooperation') can however take place without such pretensions of regional integration and usually involves the adjustment of policies and activities between countries to achieve common goals. While functional regional cooperation can and does emerge independently of the formal integration process, it also can parallel the formal process or in time contribute to the emergence of such a formal process (Delvin and Castro, 2002). Mutually beneficial functional regional cooperation is possible in virtually any field of public policy ranging from education, environment, disaster management and epidemiological issues. It is this form of regional cooperation that is of import to this paper and its applicability to fostering an environment conducive to private investment in the water and sanitation sector.

Regional cooperation has been used as a strategic response to issues of common interest, especially where there is some resource constraint at the national level. The particular advantages include:

- (a) sharing of investment and transaction costs for capital intensive activities;
- (b) pooling resources to promote and attract external funding;
- (c) achieving economies of scale in the provision of centralised services; and
- (d) overcoming capacity or capability constraints (Tutangata and Power, 2002).

Despite the benefits of regional cooperation, a range of impediments exist at regional and national levels. Obstacles to a sustained effort include waning political will, changes in integration strategy, national rivalries and technical impediments to the implementation and enforcement of common policies. Oftentimes, the process is undermined as national interests are advanced over regional ones, or national programmes do not reflect the regional agenda (Vaitsos, 1978; Bryan and Bryan, 1999). This is especially true if member countries are at different levels of development and feel 'hampered' by the requirements of 'weaker' countries (Lewis, 2002). In the absence of corrective mechanisms, the benefits of regional cooperation can be asymmetrically distributed among partners with some partners gaining more from cooperation. Weak institutions and/or personnel and unstable budgetary support can also be problematic. Table i summarises key elements and guiding principles necessary to improve the success of regional cooperation programmes.

### **Regional cooperation in water supply and sanitation**

Deregulation, privatisation and technological advancement have been credited with the emergence of complex integration structures in the energy and telecommunication sectors (Zhou, 2003). For energy, the nature of integration has been guided by specific supply and demand needs, differences in energy resource endowments and size of local markets (Hira and Amaya, 2003). The high investment priority placed on telecommunications in the realisation of socio-economic development has spearheaded numerous cooperation efforts. Compared to both these sectors, water supply and sanitation has experienced modest opportunities for regional cooperation. The water industry has not experienced major technological breakdowns or come close to exploiting economies of scale in management and operations as other utilities (Seppälä *et al.*, 2001). As a result, separation into production and transmission components as is done for developing energy markets is rare and not considered cost-effective.

The driving force for regional cooperation in the water sector has primarily been the management of shared and/or limited water resources. There is a long history of regional

cooperation through shared transboundary water resources<sup>3</sup>, especially river basins. Approximately 261 international watersheds and an untold number of transboundary aquifers cover about one-half of the earth's land surface affecting 40% of its population (Wolf *et al.*, 1999). Countries sharing transboundary resources face a two-dimensional problem – managing the water resource holistically and sharing the source (Kliot *et al.*, 2001). In the absence of balanced cross-country and cross-sectoral integration, the possibility exists for riparian countries to experience conflict over shared waters. In general, the various institutional arrangements and mechanisms are reflected in treaties, conventions and agreements, which outline the extent and intensity of cooperation and regulate the joint utilisation of water resources. The ongoing challenge has been to develop and manage the various international water sources sustainably and efficiently in full agreement and with cooperation between co-basin countries so that the result is a 'win-win' situation for all the parties concerned.

The professional/technical administrative component of water supply and sanitation has also been subject to efforts of regional cooperation. For example, the Pacific Water Association (PWA) operates as a regional non-governmental organisation that promotes direct cooperation of water utilities in the Pacific Islands in technical training, exchange of information, sharing of expertise and product services. Although operations are conducted at the national level, recognition of the unique geographic and physical characteristics and fragility of water resources unite efforts at the regional level. Financing the sector is a key element of the PWA's mandate with special consideration given to:

- (a) creating an environment for investment by both the public and private sector by developing and implementing national, sector and strategic plans that identify the economic, environmental and social costs of different services; and
- (b) establishing financially viable enterprises for water and sanitation that result in improved performance by developing appropriate financial and cost recovery policies, tariffs, etc. (PWA, 2002).

The PWA is directly funded through annual subscriptions from its members. This is considered to limit its ability to engage in independent regulatory activities that require transparency and an unbiased outlook towards competition (Zieroth, 2001). The potential exists however for the PWA to play a role in harmonising regional standards and developing best practice guidelines.

### **Caribbean regional cooperation in water and sanitation**

Regional institutions have also evolved in the Caribbean, some under the auspices of CARICOM to address various issues related to the water and sanitation sector. The better known organisations are the Caribbean Water and Wastewater Association (CWWA), the Caribbean Environmental Health Institute (CEHI), the Caribbean Basin Water Management Programme (CBWMP), Global Water Partnership Caribbean (GWPC) and the Organisation of Caribbean Utility Regulators (OOCUR). A brief introduction to each organisation follows.

CWWA is a non-governmental organisation committed to the advancement of the science, practice and management of water supply and waste disposal in the Caribbean. This it does through:

- (a) promoting the professional development of its members;
- (b) facilitating the sharing of members' knowledge and experiences;
- (c) building alliances and partnerships to strengthen member development; and
- (d) advocating on critical issues affecting the industry (CWWA, 2003).

Since its inception in 1992, CWWA's major activity has been its annual conference and exhibition during which industry practitioners explore important themes of relevance to the sector and share experiences. Over the years, the conference has evolved into the single largest assembly of professionals and executives in the Caribbean industry, and in some cases,

provides the only opportunity for networking among industry professionals. Besides the main CWWA body, national sections of the association also exist in three countries, namely the Bahamas, Jamaica and Trinidad and Tobago. CWWA membership is open to individuals, companies and utilities operating in the water, wastewater and solid waste sectors. Twenty-five regional (including 15 utility members) and seven international countries are represented (CWWA, 2005).

CEHI was initially established as a project in 1979 under the aegis of CARICOM as part of an overall Caribbean environmental health strategy for the English-speaking Caribbean<sup>4</sup>. CEHI's objectives include:

- (a) providing technical and advisory services on environmental management;
- (b) serving as a regional reference centre for environmental data;
- (c) coordinating research relevant to the environmental problems of the region;
- (d) providing environmental services; and
- (e) promoting uniformity in professional practice, design, standards and technical methods in environmental health/management (CEHI, 2005).

CBWMP was established in 1975 to provide training on a regional basis to employees of member water utility companies and to develop local in-house training capabilities within the utilities themselves. Between 1975 and 1992, CBWMP operated under various funding arrangements through the Canadian International Development Agency, Pan American Health Organisation, Caribbean Development Bank and member utilities. Member utilities have however assumed responsibility for CBWMP since 1992. CBWMP currently operates as a non-profit organisation. Its strategic plan is predicated on the following beliefs:

- (a) water must have priority on the national agendas of Caribbean countries;
- (b) each utility can achieve more by working in partnership with others;
- (c) networking among utilities is essential for the sustainable development of each utility;
- (d) collective experiences can provide solutions to the challenges faced by various utilities; and
- (e) water supply problems facing the region can be solved by the utilities themselves (Sweeney, 2003).

As part of CBWMP's focus on organisational development and training, CBWMP is currently in the process of developing benchmarks and indicators for its 13 member utilities. It also operates as a certifying authority for water and wastewater operators with the aim of promoting certification as a means of ensuring effective utility operation.

GWPC is a working partnership among various stakeholders<sup>5</sup> in water resources management in the Caribbean region established in 2004 as the regional arm of the Global Water Partnership<sup>6</sup>. GWPC's objectives include:

- (a) establishing proactive alliances in water resources management;
- (b) promoting public participation in the management of water resources through capacity building and information sharing;
- (c) promoting integrated water resources (IWRM);
- (d) aligning the Caribbean region with other global water initiatives in order to capitalise on international experiences and opportunities for regional capacity building in IWRM;
- (e) improving water governance through the promotion, enhancement and effective implementation of legislation, policy, programmes and institutional regulatory and administrative frameworks; and
- (f) collaborating with other organisations and institutions working in other areas of sustainable development (GWPC, 2004).

OOCUR is a non-profit organisation established in 2002 to assist in the improvement of utility regulation in member countries, foster development of transparent and stable utility



regulation and foster cooperation among utility regulators (OOCUR, 2003). In order to facilitate the sharing of information and experiences among member, OOCUR hosts an annual conference, regular workshops and produces a newsletter. Full membership is open to regulatory bodies with responsibilities in telecommunications, electricity, natural gas, water and transportation sectors in the Caribbean.

## **METHODOLOGY**

A multiple-case study research strategy was adopted to examine the operating environment in the water supply and sewerage sectors in the Caribbean islands of Jamaica, Barbados and Trinidad and Tobago. Familiarity with the sector, information availability and diversity in private investment experience were the main criteria used for case study selection. The specific objectives of the research were:

- (a) to examine the operating environment for private investment in the sector; and
- (b) to determine opportunities for regional cooperation towards improving the environment for private investment in the sector.

Interviews and documents were the main sources of evidence used within the case study framework. A case study protocol was developed detailing the procedures and general rules to be followed during the collection of interview evidence. The interview sample frame included senior water utility managers, utility regulators and private investors in the sector. A systematic approach was adopted for the collection of documentary evidence which included business plans, policy documents, tariff reports and capital expenditure reports. Visits to libraries and government statistical archives also provided access to other documents relevant to the research.

## **CASE STUDIES**

### **Jamaica**

The main provider of potable water and sewerage services in Jamaica is the National Water Commission (NWC). Its work is supplemented by 12 local government councils who operate small distribution systems, community catchment tanks and truck-borne water operations to provide water to approximately 74% of Jamaican households (STATIN, 2003). Private water supply systems<sup>7</sup> serve approximately 17% of the population, the majority of this being rural households. Centralised sewerage services are provided by the NWC in designated areas of Kingston and St. Andrew, a few other urban areas and discrete subdivisions, but because of the strict definition of 'sewerage systems' in the NWC Act, NWC's responsibility accounts for less than 20% of total waste generated island-wide. Sewerage systems are also owned and operated by government and quasi-government institutions and the private sector including hotels and private housing developments. The planning function of NWC is carried out by the Strategic Planning Department which is headed by a Vice President and includes a team comprising of economists, engineers and planners<sup>8</sup>.

The sector is regulated by the Office of Utilities Regulation (OUR), the independent economic regulator responsible for the approval of fees and tariffs based on prescribed water quality and service quality standards, minimum standards of sewerage services coverage and other appropriate parameters. Quality of service and guaranteed standards have been monitored by the OUR since 1999 (OUR, 1999). The regulatory framework has been recently reviewed and outlines performance benchmarks and targets, as well as reporting requirements to be achieved by NWC during the period April 2004 to March 2006 (OUR, 2004a). A 'simplified' regulatory framework has also been developed for small private operators, the terms of which form part of their licence conditions (OUR, 2004b; 2004c).

Government's authority for the sector is vested in the Ministry of Water and Housing (MOWH) which was formed in 1998 to focus specifically on deficiencies in the sector. Industry-specific policy for the sector was subsequently adopted in 1999 with a recent update in June 2004. Private participation is highlighted in the Water Sector Policy as an important financing strategy to help relieve government of the full economic burden of the sector, more so in urban areas than in rural areas (MOWH, 2004). The suggestion is for government to provide incentives to encourage private participation and to promote the involvement of cooperatives and small entrepreneurs. In so doing, the Water Sector Policy speaks to government updating the legislative framework by amending existing laws and passing new laws where necessary to reflect the policy and facilitate its implementation. Drafting instructions have been issued for a new bill, the Water Supply and Sewerage Services Act (WSSS) to serve as industry-specific legislation for the sector. Most of the provisions of the Act focus on empowering the regulatory duties of OUR, chief of which is the removal of licensing powers from NWC to OUR. The Act also provides for the Ministerial designation of a Director of Water to coordinate the macro-planning of the sector and assume planning and approval functions previously executed by NWC.

There are three recognised private water and two sewage utility companies in operation. Service providers expressed satisfaction with the framework in place for private investment. Positive comments were made regarding the Water Sector Policy, pending WSSS Act and the role of OUR in encouraging private sector activity in the sector. According to one service provider, "I think it was in 2000 that government policy changed. That was a very critical time because that change in policy meant that the private sector could get involved. The OUR was very cooperative. They set out very clearly what I was required to do in a very fair and straightforward way." Criticism was however levelled at the process of getting established as a private operator, described as "time-consuming and tedious". This was attributed to the novelty of private utility operation and the fact that local institutions lacked the necessary experience. As put by one service provider, "The players don't have a blueprint - it is really just going a step at a time." Finally, private sector activity at the community level is being encouraged in small-scale water and sewerage service delivery using the build-operate model<sup>9</sup>.

## **Barbados**

The Barbados Water Authority (BWA) is responsible for providing potable water and sewerage services in Barbados. Apart from a few exceptions<sup>10</sup>, BWA is solely responsible for the management, allocation and monitoring of water resources as well as their effective utilisation, conservation and protection. Water supply coverage is adequate with over 98% of the population having access to potable supplies. Private water supply accounts are restricted to 28% of total abstraction to service golf courses, irrigation and industry (BWA, 2004a). Centralised sewerage coverage is for about 5.5% of the population and is restricted to the capital Bridgetown and the South Coast. In theory, the Fair Trading Commission (FTC) through its Utilities Regulation Act is responsible for multi-utility economic regulation including that of BWA. The provisions of the BWA Act however mandate that decisions made by BWA including tariff rates have to be approved by the Minister of Energy and Public Utilities. While government has signalled its intention to amend the BWA Act to facilitate regulation by FTC, this action is still pending (GOB, 2002). Until such time, FTC merely serves as a 'liaison' between BWA and its customers through the enforcement of its Consumer Protection Act. The need for the development of an appropriate regulatory framework has been the focus of several studies (BWA, 2002; IDB, 2003). These speak to the need for the separation of water resource and water supply operations, separation of operational and regulatory functions, formation of a Regulatory Unit within the BWA and empowerment of FTC to regulate BWA.

Historically, BWA has done most of its work in-house which has contributed to an employee ratio of 9 persons per 1,000 customers, considered to be much higher than the industry norm<sup>11</sup> (GOB, 2004). Despite relatively high staffing levels, there is a paucity of persons at the senior management level resulting in a small number of multi-tasked and 'burdened' individuals and the merging of important job functions. For example, there is no dedicated planning unit, the duties of which have been incorporated within the portfolio of the Engineering and Capital Works Departments. This is recognised as a crucial shortfall in professional capacity resulting in inadequate attention being paid to this function and piecemeal and uncoordinated plans and works (BWA, 2000b; GOB, 2004).

Barbados is considered a water scarce country with current abstraction levels either equal or exceeding sustainable groundwater yields (BWA, 2000a). This situation in addition to serious drought conditions during 1994-5 realised the establishment of a 30,000 cubic metres per day desalination plant under a 15-year build-own-operate-transfer arrangement in 2000<sup>12</sup>. Private capital is also being sought for other water augmentation options such as the retrofitting of wastewater plants to facilitate wastewater reuse on golf and polo courses (BWA, 2005). A public/private partnership is also being examined for the construction of the West Coast sewerage project (BWA, 2004b). The government has declared commitment to a strong policy of privatisation within the context of its structural adjustment programme, with special emphasis on reducing the scope of its operations in "commercially oriented enterprises in favour of the private sector" (GOB, 1994). Scant attention is however given to the issue of private investment in BWA's draft water policy<sup>13</sup> which vaguely speaks to the development of "appropriate mechanisms . . . to enable and enhance the role of community/private sector" (BWA, 2002). Instead, the policy's main objective is to ensure that water is recognised as a critical national resource. This vagueness is reflected in investors' perception of the framework for private investment in the sector. As put by one respondent, "Government sometimes sends mixed signals. They talk about PPP but I don't think there is consensus in government as to the path that should be followed."

### **Trinidad and Tobago**

The Water and Sewerage Authority (WASA) is responsible for the development, control and operation of water and sewerage facilities in the twin-island Republic of Trinidad and Tobago, management of the country's water resources, granting of water abstraction licences and other approval functions. The supply of water is segmented into five classes based on level of service with only 18% of the population receiving continuous supply<sup>14</sup> (WASA, 2003). Centralised sewerage services are available to about 22% of the population, two-thirds of these being WASA customers. Other sewerage service providers include private housing developments, hotels, industries and government agencies. Tariffs have remained unchanged since 1993 and are based on an annual rateable value which reflects the assessed rental value of a property.

The operation of WASA falls within the ambit of the Ministry of Public Utilities and the Environment. Since 1995, government has undertaken a number of measures to improve the framework for water resources management including the development of drafting instructions for a new Water Industry Act (2001) and the establishment of a Water Resources Management Unit within the Ministry in 2001<sup>15</sup> (GORTT, 2002). The National Water Resources Management Policy which has been in draft form since 2002 is intended to unify existing initiatives and provide a strong policy direction and vision for the water sector. Even though WASA falls under the regulatory purview of the Regulated Industries Commission (RIC), RIC has not exercised full regulatory control over the utility as Ministerial approval is still required for certain decisions<sup>16</sup>. Quality of service and guaranteed standards set by RIC are however pending WASA's readiness to report and comply with these standards (RIC, 2004).

Since its inception in 1965, WASA has undergone seven major managerial arrangements ranging from a fully subsidised utility to the existing WASA management team<sup>17</sup>. Managerial instability between 1993 and 2003 has been high with a turnover of ten CEOs in as many years (WASA, 2003). The current management spearheaded by a Strategic Planning Committee is in the process of devising a new water and wastewater industry model with a vision of a corporatised utility, drawing heavily on WASA's experience under different management regimes<sup>18</sup>.

Private sector participation was a major policy issue during the mid to late 1990s. Government's pursuit towards privatising WASA began in 1996 with a three-year interim operating agreement (IOA) in the form of a management contract between WASA and Trinidad and Tobago Water Services Ltd. (TTWS). The intention was to transfer WASA into a financially viable entity prior to the negotiation of a long-term arrangement of 20-30 years. This option never materialised as the IOA came to an end in 1999 and WASA was reverted to full government control<sup>19</sup>. Private interests felt that a major reason for the 'failure' of the IOA was the fact that conceptualisation of the IOA was made under one government and implementation under another due to a change in government five days after signing. According to one respondent, "The problem was that the administration that inherited the contract had absolutely no ownership of it and actually by the end blatantly did not want it to work. The Board had no intention of making it work or wanting it to work and there were witch-hunts and that sort of thing." The IOA highlighted many of the sector's shortcomings with respect to attracting private investment. These included a restrictive legislative framework and inadequate regulatory clarity<sup>20</sup>. The other major private sector initiative is that of a desalination plant. The need to augment production to the Point Lisas Industrial Estate realised a 20-year build-own-operate arrangement in 1999 to provide 109,090 cubic metres per day between WASA and the Desalination Company of Trinidad and Tobago (DESALCOTT). This arrangement is ongoing.

### **Cross-case summary**

The operating environment for private investment is different in each case location (Table ii). Of the three cases, Jamaica has the most conducive environment for private investment. The sector is characterised by well-defined institutional arrangements, explicit policy guidelines and progressive legislative and regulatory frameworks. For the most part, there is clear separation of policy (MOWH), service provision (NWC), economic regulation (OUR) and water resource management responsibilities. The regulatory framework reflects expectations for the NWC and other service providers to operate in a commercially focused manner. In addition to a dedicated water ministry that has spearheaded sector reform, there are dedicated in-house capabilities to investigate and promote private investment in the country's best interests.

The operating environment for Barbados' water and sanitation sector is the least conducive for private investment. There is no separation of policy, service provision, economic regulation and water resource management responsibilities. Policy specific to the sector (authored by the BWA) is still in draft form and does not explicitly address private investment save for introducing it as a financing alternative for water augmentation options. Although FTC is legally identified as the economic regulator for the sector, self-regulation is conducted by BWA. Legislation to remedy this conflict of interest has been on the books since 1998 and is still outstanding. Pursuit of appropriate private sector arrangements is limited as there is no dedicated planning unit.

Although private investment in water and sanitation has been a policy objective of the Trinidadian government since the mid 1990s, the operating environment has been slow to react. The National Water Resources Management Policy expected to unify various reform initiatives is still in draft form. Like Barbados, there is no separation of service provision and water resource management responsibilities. There is however commitment to devise a new water

and wastewater industry model to define institutional responsibilities. There has been no progress on the proposed Water Industries Act anticipated to rationalise the responsibilities of institutions involved in the sector. Despite a new regulatory regime in 1998, RIC still does not have full regulatory control over WASA. The operating environment is therefore very promising but just falls short of providing conditions conducive to private investment.

Case locations also differ with respect to the type of private investment in place. Barbados and Trinidad both have experience with large-scale build-operate type arrangements. Private utilities exist only in Jamaica while Trinidad is the only location to have come close to fully privatising their water utility.

## **REGIONAL COOPERATION AND THE OPERATING ENVIRONMENT**

The aim of this section is to identify those initiatives for which regional cooperation is possible and benefits are readily visible. As mentioned earlier, regional cooperation in water and sanitation is primarily restricted to the professional/technical and administrative components of the sector as separation into its production and transmission components are rare and not cost-effective. The different resource capabilities and experiences in the water and sanitation sectors of Jamaica, Barbados and Trinidad and Tobago highlight several opportunities for regional cooperation. These include sharing knowledge and experiences, overcoming capacity/capability constraints, providing centralised services, harmonising regional standards, and building alliances to strengthen bargaining power.

### **Sharing knowledge and experiences**

Of the three case locations, Jamaica has progressed the farthest along the learning curve towards establishing an environment conducive to private investment. Private sector response to the Water Sector Policy, pending legislative amendments and regulatory framework has been positive and has realised increased private sector activity. Jamaica's operating environment can therefore serve as a successful working model to other Caribbean islands desirous of establishing a pro-private operating environment. Much can also be learnt from Trinidad's experience with different types of private investment. The environment at the time of the IOA is a classic example of what not to do and highlights the importance of getting the policy, legislative and regulatory framework right. WASA's experience under different management regimes is of use to similar utilities as they have firsthand knowledge of what does not work and why. There is therefore much benefit to be had from sharing knowledge and experiences within the region.

### **Overcoming capacity/capability constraints**

Capacity and capability constraints are often a function of size and are reflected in the level of development of the operating environment in the case studies. Jamaica is the largest case location and also has the most conducive operating environment for private investment. Conversely, Barbados the smallest case location has the least conducive operating environment. Capacity and capability constraints in the Barbadian sector are visible in the absence of a dedicated planning unit in the BWA, no identifiable individual or division within the Ministry with specific responsibility for the sector<sup>21</sup>, the multiplicity of roles assumed by BWA and the lack of FTC's sector-specific regulatory abilities. While it may not be true to say that there is excess capacity in the Jamaican and Trinidadian sector, both sectors particularly Jamaica have a larger skill-set with a wider range of experiences at their disposal. There is therefore opportunity for countries like Barbados that are not endowed with the skills/resources

necessary to develop their operating environments to 'borrow' these skills/resources from elsewhere.

### **Providing centralised services**

According to Stern (2000), resources for utility regulation are demanding and require skilled persons to staff regulatory institutions, operate utilities under a new regime of increased private investment and provide policy capacity in the relevant Ministries. Suggestions to combat this potential problem in small countries like the Caribbean include the use of consultants, the use of multi-national regional regulatory agencies and multi-national regulatory collaboration. The use of consultants and multi-national regulatory collaboration incorporate ideas already discussed as they rely on the development of shared information and possible pooling of resources between regulators in neighbouring countries. The use of multi-national regional regulatory agencies is more ambitious and seeks to create teams of a utility regulator covering several countries, say water regulators in the Caribbean. The Eastern Caribbean Telecommunications Authority (ECTEL) serving the Eastern Caribbean is the world's first example of a multi-national regional regulatory agency<sup>22</sup>. Benefits of a multi-national regional regulatory agency like ECTEL include the provision of high quality technical expertise common to all member territories and the development of a regulatory approach that can address cross-cutting technical issues. By extension, greater investor confidence in the objectivity and stability of the regulatory authority is expected to lead to greater private investment (World Bank, 2002). Problems such as loss of familiarity with the peculiarities of the local environment, slow response time and issues of trust make this option less attractive than that of using consultants and multi-national regulatory collaboration.

### **Harmonising regional standards**

The OUR and RIC have both developed quality of service and guaranteed standards as part of the regulatory framework for the sector. Standards for Jamaica were developed based on NWC's performance, policy, data availability, existing regulations, corresponding relevant standards used by the electricity utility and standards from other countries, particularly the UK. Standards for Trinidad were developed based on WASA's structure, operation, history, data on current service quality performance and standards used in the UK and Jamaica. There are no agreed quality of service and guaranteed standards for Barbados. Similarities in performance indicators and industry benchmarks make it easier to compare NWC and WASA. Harmonising standards at a regional level can therefore simplify investors' appraisal of the sector across various islands.

### **Building alliances to strengthen bargaining power**

Even with good policies and other positive characteristics for attracting private investment, small countries are sometimes rated significantly more risky than their larger counterparts (Collier and Dollar, 1999). This is partly because the absolute size of financial transactions in small countries tends to be much smaller than in large states. Haarmeyer and Mody (1998) suggest risk pooling structures and asset aggregating instruments as options for transforming projects into viable entities that can be attractive to lenders. A similar approach is possible for small-scale water projects in the Caribbean. Bundling or pooling projects across countries can improve access to private capital at better terms. There is also opportunity to benefit from savings made from bulk procurement by large-scale operations.

## Final thoughts

The objectives of some of the regional institutions described earlier coincide with several of the identified opportunities for regional cooperation in the Caribbean water and sanitation sector. Regulatory issues are specifically addressed by OOCUR. CBWMP's business is the development of industry benchmarks and indicators for its member utilities. More general aspects of water and sanitation service delivery are attended to by CWWA, CEHI and GWPC. Annual conferences and regular workshops hosted by CWWA and OOCUR provide opportunities for networking among industry professionals. Training and professional development are possible through CBWMP. The institutional framework for regional cooperation in the sector therefore already exists although there is some overlap in focus and responsibilities. The potential weakness of such organisations however is that in the absence of formal regional agreements, their position and mandate can appear 'weak'. While a formal agreement is not necessary for regional cooperation, it forces commitment and can help foster an atmosphere of trust. What is missing from the Caribbean is a *formal* policy specific to water and sanitation. The last sectoral policy on record dates back to 1981 coincident with the International Drinking Water Supply and Sanitation Decade (1980-90) which was devoted to implementing national plans for water supply and sanitation (CDB, 1981). Water and sanitation has since been incorporated into other regional mandates such as poverty eradication and health.

## CONCLUSION

Attracting private investment to the water and sanitation sector presupposes clear policy guidelines, a supportive legal framework and good regulatory governance. The extent to which these factors exist throughout the Caribbean is variable. The paper highlights opportunities for regional cooperation that can be used to develop a regional strategic framework to improve the operating environment for private investment in the Caribbean water and sanitation sector. These include sharing knowledge and experiences of developing a pro-private environment, overcoming capacity/capability constraints by sharing skills/resources, providing centralised services in areas such as regulation, harmonising regional standards to facilitate easier appraisal of the environment and building alliances to strengthen bargaining power to improve access to private capital at better terms.

Regional cooperation is not seen as an end in itself but merely as an instrument to achieve an objective – the development of an environment conducive to private investment in Caribbean water supply and sanitation. An evaluation of the benefits and weighing those benefits against the costs are the only ways to determine whether regional cooperation in water and sanitation makes sense for participating countries. Unfortunately, empirical evaluation is difficult due to inadequate data and methodological difficulties in proving casual links and generating plausible conclusions. The apparent success of regional initiatives in other spheres however gives a good indication of its successful, albeit limited application in water and sanitation.

**Table i: Basic principles for the conception, implementation and development of regional cooperation and capacity building**

| Key elements                  | Principle  |
|-------------------------------|--|
| Purpose                       | The conception of the programme must be based on the existence of common purposes among participants, in relation to a determined issue that is going to be the central theme.                                   |
| National priority             | There should be significant national priority in relation to these common purposes in order to ensure the necessary national support and follow-up.  |
| Resources capacity            | A minimum human and material resources capacity should be available at national level, or there should be the necessary political will to develop and put that capacity into the national and regional interest. |
| Leadership                    | A recognised individual and/or institutional leadership should be secured in order to allow proper guidance and development of the whole programme.  |
| Implementing and coordinating | The existence of a promoting, implementing and coordinating national and international institution or body should be secured and developed.  |
| Contribution                  | The financial and in-kind contributions from international donor agencies and organisations, and also from participating countries, should be sustained in the long-term.  |

*Source:* Montero (2002).



**Table ii: Cross-case summary of the operating environment**

|   | <b>Jamaica</b>  | <b>Barbados</b>  | <b>Trinidad and Tobago</b>   |
|---|---|--|--|
| <b>Ministry</b>                             | Ministry of Water and Housing   | Ministry of Energy and Public Utilities                            | Ministry of Public Utilities and the Environment   |
| <b>Water policy</b>                         | Since 1999  | Draft since 1997   | Draft since 2002   |
| <b>Guiding legislation</b>                  | NWC Act (1980)<br>WSSS Act (pending)  | BWA Act (1980)   | WASA Act (1965)<br>Water Industry Act (proposed)   |
| <b>Public provider(s)</b>                   | NWC<br>Parish councils  | BWA  | WASA   |
| <b>Utility planning function</b>            | Corporate and Strategic Planning Division   | No dedicated department  | Operations Department<br>Strategic Planning Committee  |
| <b>Extent of private sector involvement</b> | Service contracts<br>BO contracts (CWOs)<br>BOOT contracts (sewage)<br>Water/sewage utility | Service contracts<br>BOO contracts (sewage)<br>BOOT contract (IFL) | Service contracts<br>Management contract (TTWS)<br>BOOT contracts (sewage)<br>BOO contract (DESALCOTT) |
| <b>Utility regulator</b>                    | OUR   | FTC  | RIC  |
| <b>Economic regulation</b>                  | Full  | None   | Moderate   |
| <b>Nominal average tariff (US\$/cu. m)</b>  | Set by OUR<br>0.85  | Set by Minister<br>1.17  | Set by WASA/Minister<br>0.40   |
| <b>Utility coverage</b>                     | 74% coverage for water<br>25% sewerage coverage   | 98% coverage for water<br>5.5% sewerage coverage                   | See footnote 14 for water<br>22% sewerage coverage   |

## NOTES

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- 1 The term privatisation is widely used as a generic term to refer to increasing private sector investment. Examples of 'problematic' water sector privatisations include the Cochabamba concession in Bolivia which was cancelled, the Buenos Aires concession which was renegotiated and the management contract in Trinidad and Tobago which was not renewed.
- 2 Term used to collectively apply to the telecommunications, transportation, water, sanitation, electricity and energy sectors.
- 3 Defined as surface or groundwater resources shared by two or more countries.
- 4 CEHI currently serves 16 member states. Much of CEHI's work however has focused on the sub-region of the Organisation of Eastern Caribbean States.
- 5 Stakeholders include government agencies, private sector organisations, professional and civic organisations, statutory bodies and agencies, non-governmental organisations, community-based organisations, intergovernmental organisations, regional organisations and international organisations.
- 6 Created in 1996 to promote and implement IWRM through the development of a worldwide network of partnerships that could attract the financial, technical, policy and human resources needed to address the critical issues of sustainable water resources management.
- 7 Consists of private piped supply and private catchment that is not piped.
- 8 Includes a General Manager, Special Projects & Public-Private Sector Partnerships.
- 9 Beneficiary communities through community water organisations may choose to select a private firm to build the system and maintain responsibility for its operation and maintenance for at least 5 years. The project provides 90% of the capital cost with 10% required from the community in cash, kind or labour (GOJ and IDB, 2001).
- 10 Exceptions provided in the Porey's Spring Act (1864) and Three Houses Act (1713) which transferred water rights to the riparian landowners of St. Thomas and St. Philip respectively.
- 11 Most literature speak of efficient water utilities having 3 or 4 employees per 1,000 customers.
- 12 Water supply agreement between BWA and Ionics Freshwater Ltd. (IFL) for a brackish water reverse osmosis desalination plant at Spring Garden, St. Michael (BWA, 1998).
- 13 Updated in 2002 albeit still in draft form since 1997.
- 14 Class 1 – 168 hrs/wk or continuous supply (18%); Class 2 – 120 to 168 hrs/wk (28%); Class 3 – 84 to 120 hrs/wk (33%); Class 4 – 48 to 84 hrs/wk (11%); and Class 5 – less than 48 hrs/wk (9%) (WASA, 2003).
- 15 The responsibility for water resources management still essentially rests with WASA as the Water Resources Management Unit is a part-time team seconded from WASA to the Ministry of Public Utilities and the Environment.
- 16 Regulatory independence of RIC is difficult as it falls under the same ministry as WASA.
- 17 Managerial arrangements as follows: 1965-86 – public sector mode; 1986-92 – self sufficiency; 1992-4 – institutional strengthening team; 1994-6 – interim management team; 1996-9 – IOA with TTWS; 1999-2002 – post IOA external management team I; and 2002-present – post IOA WASA management team II (WASA, 2003).
- 18 Sector disaggregated into 6 components and management models assigned – water resources management (public); water production (mixed); water transmission (public); water distribution (mixed); wastewater collection (mixed); and wastewater treatment (mixed) (WASA, 2003; 2004a).
- 19 Reasons for the 'failure' of the IOA included no discernable service improvements, cultural differences, delays and postponement of multilateral bank funding and other investments, pressure from local stakeholders and political reluctance to raise tariffs (Rennie, 2003; WASA, 2004b).

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20 For instance, the act governing WASA was not modified. This meant that TTWS had to manage WASA within the legislative constraints of an act which made no provisions for the delegation of WASA's statutory obligations to a third party. The new regulatory regime under RIC did not come into effect until 6 months before the end of the IOA. This meant that the IOA lacked regulatory clarity for much of its life.

21 Requests to speak to a Ministry representative were constantly redirected to the General Manager of BWA identified as government's policy spokesperson for the sector.

22 For further information on ECTEL see Samuel and Welsh-Haynes (2000), DeFreitas *et al.*, (2001) and World Bank (2002).

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