The reform of public water utilities: successful utility reform efforts as punctuated equilibria

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Abstract

The reform of public water utilities has received increasing attention over the past decade. In this paper, the reform paths of five public water utilities from five different developing countries are compared. This paper finds that for each case, an external event or crisis brought the issue of water services high on to the political agenda, leading to a window of opportunity in which relatively radical reforms could be implemented.

However, as political support for continued reforms withered, performance improvements became difficult to sustain. Without continued political support, performance improvements can be followed by a relapse to poor performance.

Keywords: Developing countries; Public water utilities; Utility reform

1. Introduction

Despite the strong encouragement of many international financing and development agencies to stimulate private sector involvement in the water supply and sanitation sector (Haque, 1996; Nickson, 1997), the overwhelming majority of water supply and sanitation services are still provided by public sector organizations in most middle- and low-income countries. Current estimates place the share of the world’s population that is being serviced by private service providers at no more than 3–10%, of which a large portion resides in high-income countries (OECD, 2003). The general consensus is that provision of water services will continue to be a task for public water utilities for many years to come, especially in low and middle-income countries.

In many countries, however, the public service providers have failed to provide consumers with adequate water supply and sanitation services (Mwanza, 2004). This failure is evident in the low-quality service and inadequate coverage, inefficient operational and maintenance practices (which often result in high unaccounted-for water rates), poor cost recovery, high labor costs and low labor productivity, and large state subsidies that benefit mainly the middle class and the wealthy (Panayotou, 1997; Schwartz, 2006).


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1.1. Reforms in the water sector

The poor performance of public water utilities and its impact on low-income households has not gone unnoticed. In the past 30 years, the issue has featured prominently on the agenda of international donors and lending agencies. These organizations launched activities such as the International Drinking Water Decade (1980–1990) which adhered to the exceptionally ambitious target of providing safe water and sanitation for all. The outcome of that decade was disappointing; at the end of the decade as many people still lacked access to safe drinking water and sanitation as when the decade began (Economist, 1994).

Since the Drinking Water Decade, the reform of public water utilities has received increasing attention from sector professionals, donor and lending agencies and researchers. Most recently, this attention takes the form of the UN Water Decade (2005–2015) and the Millennium Development Goal 7, target 10, which stipulates a much less ambitious target of, by 2015, halving the proportion of people without sustainable access to safe drinking water and basic sanitation.

This paper compares the initial stages of reforms for five public water utilities. The question addressed in this comparison is whether or not there are similarities between successful reform efforts of public water utilities? To answer this question, five cases were analyzed, each of which underwent reform efforts in the 1990s and the first part of the current decade. Each of the selected utilities has been promoted as an example of successful reform.

2. Five ‘turn-around’ utilities

Turn-around utilities have distinguished themselves from the majority of public water utilities in developing countries by being able to improve performance over a period of three to ten years. The ‘turn-around’ utilities, which will be discussed in this paper, are the National Water and Sewerage Corporation (NWSC) in Uganda, the Hai Phong Water Supply Company (HPWSC) in Vietnam, the Sistema Municipal de Agua Potable y Alcantarillado de Guanajuato (SIMAPAG) in Guanajuato, Mexico, the Sociedade de Abastecimento de Água e Saneamento (SANASA) in Campinas, Brazil and the Phnom Penh Water Supply Authority (PPWSA) in Phnom Penh, Cambodia. The case studies of NWSC, SANASA, HPWSC and SIMAPAG were undertaken as part of the World Bank–Netherlands Water Partnership sponsored Public Modes of Engagement Project (Aguinaga, 2004; Hoang, 2004; Mwoga, 2004; Schwartz, 2006). The PPWSA case is based on literature review (World Bank, 2003, 2004; McIntosh, 2003; ADB, 2006, 2007).

Each of the cases has been presented nationally and/or internationally as an example of successful reform. The NWSC has received considerable attention regarding its achievements in improving the provision of water services; that the utility was requested to present itself as a ‘turn-around’ company during the Water Forum at the World Bank in 2003 is indicative of this.

SANASA has been recognized by a variety of sources as a ‘turn-around’ utility. The Correio Popular newspaper recognized it as being an outstanding public organization in 2003. It was acknowledged by Environmental Sanitation Magazine as the municipal operator of the year in 2004 and was recognized for its performance by the Campinas Municipal Council in 2004.

SIMAPAG was presented, alongside NWSC, as an example of successful reform at the 2003 Water Forum at the World Bank. SIMAPAG was furthermore identified by staff of the State Water Commission of Guanajuato (CEAG) as a utility which had managed significant performance
improvements in the late 1990s and early part of this decade (Personal interview with the Director of CEAG, November 2003).

The HPWSC was presented as a ‘turn-around’ case at the 24th WEDC (Water Engineering Development Centre) Conference, held in Islamabad, Pakistan, in 1998. In 2003, the utility also received recognition for being an outstanding public organization from the Vietnamese national government. Furthermore, a benchmark study of the Vietnamese water services sector, monitored by independent auditors, found that HPWSC was one of the best performing utilities in Vietnam.

In 2004, PPWSA was awarded the Asian Development Bank (ADB)’s Water Prize—an award conferred to exemplary project agencies that have established sound practice in implementing ADB’s “Water for All” policy—for dramatically overhauling Phnom Penh’s water supply system and demonstrating leadership and innovation in project financing and governance (ADB, 2006).

3. Utility performance as a low-level equilibrium

As mentioned in the introduction, many of the public providers of water services deliver services of very poor quality. The poor performance of many of the public utilities can be viewed as a low-level equilibrium from which it is difficult to escape. Spiller & Savedoff (1999), who analyzed the provision of water supply and sanitation services in Latin America, find that inadequate provision of water services is largely a consequence of “the nature of the sector, coupled with a nation’s political institutions”. The nature of the sector and the country’s political institutions together “create incentives for government-owners of public utilities to behave opportunistically, for the service providers to operate inefficiently, and for the consumers to withhold support from the sector”. These conditions ultimately lead the water services sector “toward a low-level equilibrium...”

A similar view is espoused by Nickson (2002) who argues that the urban water utilities are ‘snared’ in “a ‘low-level equilibrium trap’, in which the vested interests of powerful producer stakeholders (politicians, trade unions and engineers) predominate”. In essence, his argument is that decisions related to the provision of water services are mainly taken with the aim of achieving the objectives of the producer-side, rather than the consumer-side of the service provision process. With the objectives of the producers often conflicting with those of the consumers, the services provided to the consumers are of a very low quality.

Prior to the initial reforms, the case studies were all showing relatively poor performance. The utilities had relatively high levels of unaccounted-for water, which varied between 37% and 73%, meaning that more than one-third to almost three-quarters of the water produced was ‘lost’ somewhere in the distribution process. Service coverage for the utilities was also low. In the case of PPWSA, the utility only serviced one in four residents in its service area. Another indication of poor performance is the labor productivity (often measured in staff per 1,000 connections). Two of the utilities had staffing levels of at least 20 staff per 1,000 connections, whereas a well-functioning utility often has around 5 staff per 1,000 connections. Most of the utilities were unable to meet operation and maintenance costs from the tariffs that were being charged, meaning that they were dependent on government subsides for operational costs or simply minimized maintenance activities. Tables 1 and 2 provides selected indicators of performance prior to the reform efforts. Obtaining accurate information about the performance of water utilities which are performing poorly is often difficult, as reliable information about the performance is often lacking. Availability of reliable information often increases with performance.
The causes of poor performance are different from one location to the next. In both Uganda and Cambodia, prolonged periods of civil war greatly impact the ability of utilities to provide services. After years of neglect, the capacity of these two utilities to provide services has been severely constrained. In the other locations, the causes of poor performance in the era preceding reform can be traced back to a strong politicization of management and an inadequate regulatory framework (Schwartz, 2006). With strong political influence in the management of the utilities and a regulatory framework which provided little incentives for the utility to improve performance, performance dropped to dramatic levels in these utilities.

4. External events as triggers for reform

In each of the cases, the reform process could be traced back to a trigger, which initiated the reform effort. What was noteworthy was that all utilities were subject to some form of external shock or crisis prior to the actual implementation of reforms. The nature of that crisis or external shock, however, varied from case to case.

In the case of HPWSC, the crisis consisted of a water services crisis in 1993 in which the utility had tremendous difficulty supplying the citizens of Hai Phong with water. The water crisis led to civil unrest and violent protests in the streets of Hai Phong. During one of these protests, one employee of the utility was even killed. The civil unrest put enormous pressure on the Hai Phong People’s Committee (HPPC) and in doing so placed the issue of water service high on the political agenda. The HPPC was forced to respond and in response to the protests put a lot of pressure on the HPWSC to improve service provision (Hoang, 2004).

In Uganda, the NWSC faced pressure of a different kind. Following the disappointing performance of the NWSC in the early part of the 1990s, the government of Uganda, assisted by international development agencies, started to ponder seriously the possibility of involving the private sector in

Table 1. Characteristics of the five case studies in 2002.

<table>
<thead>
<tr>
<th>Mandate Type of organization</th>
<th>Population served</th>
<th>Connections</th>
<th>Employees</th>
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<tbody>
<tr>
<td>NWSC National Statutory body</td>
<td>1,315,000</td>
<td>87,172</td>
<td>950</td>
</tr>
<tr>
<td>HPWSC Provincial* Statutory body</td>
<td>538,600</td>
<td>131,136</td>
<td>762</td>
</tr>
<tr>
<td>SIMAPAG Municipal Statutory body</td>
<td>84,281</td>
<td>22,395</td>
<td>185</td>
</tr>
<tr>
<td>SANASA Municipal Government-owned company</td>
<td>982,977</td>
<td>209,091</td>
<td>1,609</td>
</tr>
<tr>
<td>PPWSA Municipal Statutory body</td>
<td>750,000</td>
<td>88,571</td>
<td>391</td>
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* The Provincial mandate is based on the fact that the city of Hai Phong officially has provincial status (rather than that of municipality).

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Table 2. Initial Performance of NWSC, SANASA, SIMAPAG, HPWSC and PPWSA.

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<tr>
<td>Unaccounted for water</td>
<td>42%</td>
<td>37%</td>
<td>40%</td>
<td>73%</td>
<td>72%</td>
</tr>
<tr>
<td>Service coverage</td>
<td>54% n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>68%</td>
<td>25%</td>
</tr>
<tr>
<td>Staff per 1,000 connections</td>
<td>21</td>
<td>n.a.</td>
<td>7.89</td>
<td>n.a.</td>
<td>20</td>
</tr>
</tbody>
</table>

Sources: Mwoga, 2004; Aguínaga, 2004; Hoang, 2004; ADB, 2006.
providing water services. The idea was that provision of water services in Uganda would be delegated to the private sector by way of a lease contract. In the 2003–2006 performance contract between the Ugandan Ministry of Water and Environment and the NWSC, the preamble explicitly states that the Government of Uganda “undertook a study of the urban water sector restructuring and reform options for Uganda which recommended a lease package for the larger urban towns and district townships including the NWSC operated centers” (Government of Uganda, 2003). In fact, the performance contract itself was introduced as a “transitional measure” to prepare the utility for “institutional transformation” (Government of Uganda, 2003). The threat of increased private sector involvement through a lease contract put a lot of pressure on NWSC (Mwoga, 2004). In order to avoid the scenario of ‘institutional transformation’ the utility had to show that it could turn around performance.

The trigger for reform in the case of SANASA and SIMAPAG was yet again different and is strongly linked to the system of local government. In the two municipalities where these utilities operate, the municipal presidents are elected for periods of four years (in the case of Campinas (SANASA)) and three years (in the case of Guanajuato (SIMAPAG)). Three characteristics of the local government system are particularly important in both cases. The first is that incumbent mayors (or municipal presidents) are not eligible for reelection. The second is that, in local governments, the municipal presidents have far reaching powers. The municipal government can be viewed as ‘presidential government’ as described by Lijphart (1984). Essentially, the executive powers of the municipal president are so strong that the legislative and judicial branches have had to accept presidential dominance (Arellano & Guerrero, 2003). (Weak legislative and judicial branches are not something that is specific to Mexico and Brazil but is a characteristic of many developing countries (World Bank, 1997a). The third characteristic is that of so-called funcionarios de confianza (or ‘confidence officials’). Confidence officials are basically political appointees, with the exception that rather than being loyal to a party, the officials are loyal to the municipal president who, given his powerful position, has appointed them. When the municipal president leaves office, so do the confidence officials. Because the municipal president is only elected for a term of three or four years, and re-election is not possible, it means that a large part of the municipal government changes every three or four years (Capital Advisors, 1999). The trigger for reform in both SANASA and SIMAPAG was municipal elections which brought in new municipal governments. In Campinas, the municipal elections of 1996 led to a new municipal government, which initiated a period of performance improvement in the city of Campinas. In SIMPAG, the municipal elections of 1994 led to a new municipal government which initiated utility reforms.

In the case of PPWSA, the utility was characterized by deteriorating service provision due to the 20-year civil war which raged in Cambodia. The external event that provided a window of opportunity for implementing reforms was the implementation of the 1991 Paris Peace Agreement. This Peace Agreement, which was accompanied by substantial support from donor and international lending agencies, provided the setting in which reforms could be introduced.

For all of the cases mentioned above, the experienced ‘external shock’ or crisis appears to “both generate a need for change and also [to] open up ‘windows of opportunity’ by throwing the normal rules of the game into flux” (Batley & Larbi, 2004). Batley and Larbi’s findings concerning reform processes in nine countries illustrate the importance of crisis prior to reform as they found that ‘economic’ crisis was “a key catalyst in bringing about reform”. The normal rules are thrown into flux because crises or external events weaken or undermine supporters of the status quo (Tomassi, 2001) and raise the issue of water services on the political agenda. The reason why the issue of water services becomes more prominent on the political agenda differs from one location to the next. It can be due to a change in
government, in which the incoming government places more emphasis on the issue of water services (as observed for SIMAPAG and SANASA). It can be due to protests from civil society which force an existing government to pay more attention to the issue of water services (as in the case of Hai Phong), or it may be because donors and lending agencies provide opportunities (and pressure) for the existing government to increase attention paid to improving service provision (as in the case of Phnom Penh and Uganda). With increasing political pressure to improve services, sufficient political support exists (at least for a limited time) for the proponents of reform to implement reforms in the water utilities.

The existence of a crisis or external shock appears to be in line with so-called ‘punctuated equilibrium’ theory. The idea of seeing institutional change in terms of punctuated equilibria is strongly based “on the biological evolutionary process that biologists Stephen Jay Gould and Niles Elridge...conceptualized as punctuated equilibria” (Aoki, 2000). The idea behind the theory of institutional evolution as punctuated equilibria is that, once a particular institution is established, “it tends to sustain itself. Change in the system may more likely be initiated by a large external shock that triggers the activation of internal change, cumulative or new, rather than something continual or gradual” (Aoki, 2000).

Strongly linked to the idea of institutional evolution as punctuated equilibria is the concept of ‘resilience’. Resilience can be defined as “the amount of disruption needed to transform a system from one stability domain (characterized by a configuration of mutually reinforcing processes and structures) to another” (Ostrom & Janssen, 2002). In other words, institutional change would need to be preceded by a disruption of sufficient magnitude (the external shock mentioned by Aoki) to push the organization from one equilibrium to an equilibrium at another level. Such an external shock preceding institutional change was observed in each of the five cases.

5. The initial reforms: similarities

The triggers for reform appear to be crucial in providing a window of opportunity but how this window of opportunity is utilized appears to be just as important for successful reform. It is clear that the events triggering a reform process are not ‘sufficient’ in themselves for achieving performance improvements. Rather, successful reform seems to encompass a mix of ingredients, which include strengthening capacity and changing the culture of the utility, external financial and political support, and new, charismatic leadership. These ingredients come together in the aftermath of an event triggering the window of opportunity.

5.1. New management

What distinguished these utilities is the fact that immediately after the shock, a new general manager was appointed who, through a combination of charisma and professional leadership, managed to make the most of the window of opportunity created by the shock. In the NWSC, Dr Muhairwe drastically changed the way the utility was managed following his appointment in 1997. In Hai Phong, Mr Dam Xuan Luy, was appointed as general manager following the water crisis in 1993. In SANASA, Vicente Andreu Guillo initiated the ‘turn-around’ in 1996 following his appointment after a municipal election. In the case of SIMAPAG, Raul Silva has been credited as initiating a sweeping change within the utility following his appointment as general manager in 1995. In the case of PPWSA, Mr Ek Sonn Chan has received praise for improving a utility and turning around an organization that was “in a sad state of chaos and disarray”
(ADB, 2006). The changes in management in the cases studied appear to support the idea that fundamental change means new approaches to utility management and inevitably new leadership.

5.2. Capacity building and utility culture

Another similarity in the initial reforms was the emphasis on increasing the capacity of the utility to provide the services. Capacity in this sense should be seen as incorporating various dimensions, such as human resources, physical infrastructure and financial resources as well as external support.

5.2.1. Human resources. In each case, strong emphasis was given to extensive training programs for all levels of the utility’s staff. As Mr Thuy, the managing director of HPWSC, would later come to remark: “we trained everyone” (Personal interview, November 2003, in Hai Phong, Vietnam). The purpose of the extensive training programs appears to be two-fold. On the one hand, the training programs increased skills and knowledge of staff and stimulated new ways of dealing with challenges on the work floor. As important, however, appears to have been the purpose of forcing a new company culture through these training activities. The training activities emphasized that it would no longer be business as usual but that the utility had entered a new course. Extensive training programs were also set in place at PPWSA, NWSC, SANASA and SIMAPAG.

5.2.2. Rehabilitation and construction of infrastructure. In all cases, the many years of civil strife or neglect deteriorated the physical infrastructure for providing services greatly. The new management was confronted with run-down water and sewerage systems which were ill-suited to provide services of adequate quality. In all cases, the initial stages of the reform process were characterized by considerable investments in rehabilitation and augmentation of existing infrastructure and the construction of new infrastructure for providing services. The investments in infrastructure, mainly financed by government, donors or international lending agencies, greatly enhanced the physical capacity of the utilities to provide improved levels of services to their customers.

5.2.3. Tariff increases. An important dimension of capacity relates to the financial resources available to the utility. Historically, the levels of tariffs have been a major problem in the water supply and sanitation sector in developing countries. Often they have been set at levels that do not allow the utility to recover operation and maintenance costs. For a utility to be financially autonomous, tariff levels should at least cover operation and maintenance costs (and preferably part of the investment costs). Moreover, the real tariff level often deteriorates over time if no adjustments for inflation are made. In the cases studied, however, the reforms included increasing tariffs to levels, which at least allow for recovering operation and maintenance costs. This not only highlights increased financial capacity but is also an indication of political support for utility reforms, as few governments like to be seen raising tariffs for services such as water supply and sanitation. In Uganda, the tariff charged by the NWSC remained unchanged from 1994 until 2000, causing the real value of the tariff in 2000 to be 45% of the tariff charged in 1994. The Mandate of NWSC as defined by the NWSC statute, however, is to “operate and provide water and sewerage services in areas entrusted to it, on a sound, commercial and viable basis”. Not surprisingly tariffs were increased in 2000. In 2002, the Government of Uganda supported a policy of annual tariff indexation. The indexation is linked to a domestic price index, exchange rate, foreign price index and electricity tariff in order to maintain the real
tariff level. Although current tariff levels are still not to the level of full cost recovery (operations and maintenance and investment costs), the tariff does cover operations and maintenance and part of the investment costs.

In Hai Phong, tariffs were increased in 1994, 1996, 1997, 1999 and in 2002. Over the period between 1994 and 2002 tariffs doubled from about 1200 VND to 2400 VND.

In Phnom Penh, tariffs were raised in 1997, 2001 and 2003. The tariff increases coincided with improvements in service provision in order not to undermine the willingness-to-pay of the consumers.

In SIMAPAG a system of automatic monthly tariff increases existed. In the period 1997–2003, the tariffs would automatically increase by 1.1% per month. During this time period, tariff increases were automatic unless the municipality actively intervened. As inflation levels were below 1.1% per month, the real tariff level increased over the time period in question. Between 1995 and 2002, the average monthly income per connection increased from 54.17 Mexican pesos to 133.68 Mexican pesos (SIMAPAG, 2003).

Having emphasized the importance of financial capacity, these comments should not be overstretched to conclude that well-performing utilities necessarily operate on the basis of full cost recovery. Very few utilities which operate in developing countries are able to operate at full cost-recovery. In fact, the Managing Director of NWSC has argued that “full cost recovery is a myth”, especially in the so-called least developed countries (Muhairwe, 2006). This means that public water utilities in most developing countries will always be dependent on either government grants or donor funds to provide for the necessary investment capital.

5.2.4. External financial support. Although tariff increases appear important to improve financial capacity, they in themselves do not appear sufficient. Many ‘turn-around’ utilities which showed performance improvements would not have been able to do so without outside financial assistance. In the case of Hai Phong for example, the World Bank and DANIDA provide considerable assistance. In Uganda, the NWSC received financial assistance from the World Bank, the German Government through KfW and GTZ, and the European Union through the European Development Fund. SANASA has also depended on financial resources from government agencies. Contributions and loans were received from the State Fund for Water Resources (FEHIDRO), the Federal Economic Bank (CEF) and the National Bank for Economic and Social Development (BNDES). PPWSA received several loans from the World Bank. SIMAPAG has been the recipient of funds from the National Water Commission (CNA) as well as the State Water Commission of Guanajuato (CEAG).

It is also to be noted that the organizations providing financial resources play a strategic role in the sector and do more than just provide financing. The CNA and CEAG, for example, use the leverage created by the possibility of awarding funds, in order to steer developments in the water supply and sanitation sector of Guanajuato. This steering is done by offering funds only for specific investments which these organizations consider priorities within the sector. Both CEAG and the CNA tend to offer funds only when their contribution is matched by a contribution from the receiving water utility. Moreover, most of these funds have specific allocations (the CNA funds, for example, must be used for the development of wastewater treatment facilities). In the case of CEAG, the funds and their spending are largely managed by CEAG themselves. This means that many of the contractors and consultants undertaking an activity will actually be contracted by CEAG. CEAG then also supervises and monitors these contracts. In this way, these organizations are able to ‘steer’ the utilities towards investments that they consider worthwhile.

Linked to the issue of external assistance is that of the role played by the government of the country in which the utilities operate. In most cases, external assistance is only possible if the government provides
support and guarantees to the external agency providing the assistance. (This not only applies to funds from international lending agencies and donors, but also to private banks who are also likely to require the owner government to provide guarantees). As a result, without political support a utility is unlikely to have access to external assistance and, as such, is unlikely to be able to ‘turn around’ performance. As an example it is possible to refer to the discussion of the tariffs in Hai Phong above. Raising tariffs appears to have been a condition in order for HPWSC to gain access to a World Bank loan. The HPPC supported tariff increases for the water utility in order to obtain this external financing.

5.3. The reform mix

In the cases studied new, charismatic leadership, the financial and political support received by the utility and increased capacity of the utility lead to a flurry of internal utility reform measures. These reform measures were aimed at, on the one hand, reducing costs and, on the other hand, increasing income. Reducing costs generally involved reducing overstaffing (SIMAPAG seems to be a notable exception as the utility has remained at a level of approximately 8 staff per 1,000 connections over the 1995–2003 period) and also involved reviewing procurement and operational procedures, and rehabilitation of infrastructure. Reform measures aimed at increasing utility income included activities such as improving billing and collection levels by increasing metering, updating the consumer base, computerizing the billings system, increasing customer orientation of the utility and confronting non-paying customers (which are often government agencies) with the possibility of cutting off supply.

As the utility is reducing costs and increasing revenue by improving billing and collection and charging higher tariffs, it must at the same time improve service levels in order to ensure that users keep paying the increased tariffs. This link was also echoed by Ruben Nieto, the chairman of the Council of SIMAPAG in 2003, during a presentation at the World Bank Water forum in 2003. In this presentation he explained that although SIMAPAG’s customers were willing to pay relatively high tariffs, they are also becoming more demanding, insisting that SIMAPAG meet higher service standards (the link between customer orientation and the income of the utility is also reflected in Awortwi’s (2003) research into service delivery in Ghana. Awortwi illustrates that link by quoting a contractor, who finds that “[p]eople’s attitude towards the service is not my problem at all because they do not pay me. It’s [local government] which pays, so if people show apathy, that is their problem”). Although the aim of reform measures is similar in each case and is aimed at reducing costs, increasing income and improving service levels, the specific nature of the reforms may differ from one location to the next. In the city of Hai Phong, for example, performance improvement took shape by implementing the so-called ‘phuong model’. The ‘phuong model’ is named after the smallest administrative unit in Vietnamese cities, the phuong, which encompasses between 10,000–15,000 inhabitants. The ‘phuong model’ consisted of rehabilitating water infrastructure in a zone-by-zone (or phuong-by-phuong) manner. Existing infrastructure was rehabilitated in a particular phuong and meters were installed for individual household connections. Following rehabilitation of a ‘phuong’ all households had a (metered) individual or block connection. In each phuong an office was opened that was charged with managing customer services and collecting tariffs from the households. At the same time as the rehabilitation of infrastructure, extensive training programs, aimed both at increasing skills and knowledge as well as forcing a new company culture, were implemented with the assistance of international development agencies (Ahn Thu & Luy, 1998). In other locations, the specific reforms took on a different format.
6. Fading ‘windows of opportunity’

In the previous sections it was argued that the five cases studied followed similar reform paths. However, as the tremors of the external shock fade and diminish, so does political support for further reforms. In three of the cases a slow down in reforms was observed. This slow down either related to the difficulty of receiving (government) approval for additional tariff increases (in the case of the HPWSC and SIMAPAG) or to newly elected mayors firing almost the entire management staff upon entering into office (in the cases of SIMAPAG and SANASA).

In the case of SIMAPAG, for example, the monthly tariff indexation was changed just prior to the municipal elections of 2003. It was decided to reduce the tariff indexation from 1.1% per month to a level of 0.01% per month. This level of 0.01% is well below the level of inflation meaning that, since October 2003, the real tariff levels have been dropping. In time, if this situation persists, it will erode SIMAPAG’s financial capacity.

In both the SIMAPAG and the SANASA case, a change in municipal government led to a complete replacement of the management of the utility which had previously managed to improve performance. In SIMAPAG the replacement followed the 2003 municipal elections. In SANASA the change in management followed municipal elections in 2005.

Immediately after a crisis or major event there appears to be a ‘window of opportunity’ to implement a wide range of relatively radical reform measures, as the issue of water services provision figures prominently on the public agenda. However, as time passes and a ‘sufficient’ level of performance is achieved, other issues (such as housing, roads, employment, education and healthcare) surpass water services in prominence on the public agenda. When that happens political support for the water services sector dwindles and the utilities face much more difficulty in getting approval for measures such as tariff increases, as these are never popular amongst the electorate.

7. Conclusions

In this paper it has been argued, on the basis of five case studies, that reform paths for water utilities in developing countries show considerable similarities. In each case study, an external event could be identified which preceded the reform effort. The existence of such a trigger appears to be in line with a punctuated equilibrium approach, in which a situation of poor performance (low-level equilibrium) is punctuated by an external event. This external event can manifest itself in various forms. It can be due to a crisis of service provision, which leads to protests from civil society. It can be changes in (local) government (through elections, peace agreements or decentralization processes) or it can be due to pressures from external organizations, such as donors or international lending agencies. In each case study, the external event provided a window of opportunity in which a mix of new charismatic management, increased capacity and external support led to a successful reform effort.

Interestingly, however, there does appear to be something of a contradiction in the potential for ‘turning around’ performance and the potential for sustaining improved performance. As argued, ‘turning around’ performance requires an external shock and sufficient ‘vulnerability’ to allow “the disruption needed to transform a system from one stability domain” to another, as expressed by Ostrom & Janssen (2002). So, for the initial performance improvement, vulnerability to external shocks was a good thing. However, as the case studies highlight, political support for improving performance declines...
as the issue of water services becomes less prominent on the political agenda. As political support dwindles, the utility, despite improving performance, may become more vulnerable to external shocks and pressures. In order to sustain higher-level equilibria, that same organization, be it under new management and with increased capacity, would have to be insulated from shocks of the external environment, which may negatively impact performance. In other words, an improved level of performance can only be maintained if the utility is sufficiently resilient to withstand external pressures and shocks, which can adversely impact its performance (such as changes in local government). This tight-rope act seems to be a difficult feat to accomplish and the findings of this research suggest that it is questionable if all the public water utilities presented in this study will manage to sustain high-level equilibria. In three of the cases, a weakening of support for the utility has been observed. This may lead to an erosion of performance improvements obtained. Also, in the other two cases (NWSC and PPWSA), the successful continuation of reforms is very much dependent on local political developments. Time will tell if the cases currently being seen as examples of successful utility reform will continue be viewed as such in the near future.

Although research into how such water utilities can maintain performance improvements is limited, a number of suggestions could be put forward from theory as to how the performance improvements can be sustained. The first is that, during the reform process, measures should be pursued to render the utility less vulnerable to external shocks. What this entails in practice is to develop institutional arrangements which safeguard the actual level of autonomy of the utility. For most of the utilities above, actual autonomy of the utility remains dependent on the practices of politicians and government officials, thus rendering them vulnerable to local political developments. The second suggestion is to increase the accountability mechanisms to which the utility is subject by increasing the role of customers (through, for example, customer committees). Most of the water utilities mentioned above are de facto mainly accountable to the government-owners of the utility. By involving customers to a greater extent and making the utility accountable to the customers, the ‘strong-hold’ of the government on the utility is lessened.

References
