

INNOVATIVE WATER SERVICES OPERATION AND MAINTENANCE: EXPLORATION OF FRANCHISING PARTNERSHIPS

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Abstract

WRC and CSIR research has found that franchising partnerships could alleviate and address many challenges in the operation and maintenance of water services infrastructure. Franchising brings appropriate training to those on-site, and also offers backup off-site skills together with the incentive to both call for those skills and to make them available. Findings indicate that many opportunities lie in the franchising of suitable elements in the water services value chain, and a selection of these elements has been modelled on paper.

1. THE CASE FOR INNOVATIVE INSTITUTIONS RESPONSIBLE FOR WATER SERVICES INFRASTRUCTURE OPERATION AND MAINTENANCE

Is there a case for investigating the nature of, and prospects for, innovative types of institutions to take some responsibility for water services infrastructure operation and maintenance in South Africa?

If institutions currently responsible for water services were performing operation and maintenance satisfactorily, then the case for innovation would have to rest on other considerations, such as opportunities for the development of local microenterprises, gender opportunities and BBBEE opportunities, were these deemed to be desirable. And indeed a case can be made for innovation that will create these opportunities.

But there is little disagreement that operation and maintenance is all too often unsatisfactory. Numerous studies have pointed to skills shortfalls as the main problem area. For two examples:

- The South African Institution of Civil Engineering (SAICE) "report card" of the state of South African infrastructure (SAICE 2006) assigned water infrastructure the grade of "C+" and sanitation "C", whereas it gave "D-" and "E" (the next-to-the-lowest-possible grade) to the equivalents in small towns and rural areas. SAICE found that, to a very significant extent,

the difference lay in that infrastructure in the major urban areas has access to skilled professionals and technicians, whereas outside of these areas this access is very limited or non-existent.

- As a further illustration of the direct result of shortfalls in selected competencies, sample surveys of wastewater treatment works show frequent non-compliance with the performance standards laid down. (For one example only: DWAF and CSIR 2007¹.)

2. WHAT SKILLS

It is seldom disputed that shortages of skills at levels above general worker -- and the higher the skills level the greater the scarcity -- are a major obstacle to the effectiveness of water services institutions' operation and maintenance. For example, work undertaken for DWAF on formulation of the implementation plan for the National Water Services Infrastructure Asset Management Strategy identified issues around:

- the levels of infrastructure asset management (IAM) skills required, and how frequently they are required;
- where these skills are, and what their availability (irrespective of any procurement considerations) might be.

For present purposes, skills requirements for operation and maintenance may be regarded as to all intents and purposes the same as the requirements for IAM.

What skills are required, and how frequently are they required.

To reiterate: required, that is, by a water services authority (WSA), in order to operate and maintain the infrastructure for which it is responsible.

¹ For example: "A number of problem areas have been identified regarding breakdowns and slow repair times. Approximately 40% of the bulk water projects have not been operational at some stage in the past year. Other problems include [that] some projects indicated that their operators have not received any training in operation and maintenance and that the water quality is not being monitored. Technical problems reported included water pumps that were out of order or non-operational for various reasons, pipe leakages, illegal connections to pipelines, and reservoirs that were non-operational." (DWAF and CSIR 2007, pages 19 and 20.)

Recommendations of measures to resolve these problem areas include:

- "A proper and regular monitoring and reporting system to assist in identifying and rectifying problem areas"
- "The requirements for detailed maintenance records and proper maintenance regimes should be enforced."
- "Operating manuals should be standard issue and should be translated into the vernacular of the operator."
- "Operators should receive appropriate and regular training and re-training." (Ibid, pages 24 and 25)

It is convenient to consider the type and frequency of particular skills needed under the headings of:

1. skills needed every hour;
2. skills needed once a day;
3. skills needed once or twice a month; and
4. skills needed once or twice a year.

In more detail:

1. Skills needed every hour include those of:

- general workers
- operators.

2. Skills needed once a day include those of:

- supervisors (e.g. supervisors of operators)
- some artisan skills, without the persons concerned necessarily being qualified artisans
- testing, laboratory support
- skills in the capture of operation and maintenance performance data
- skills in routine procurement.

3. Skills needed once or twice a month include those of:

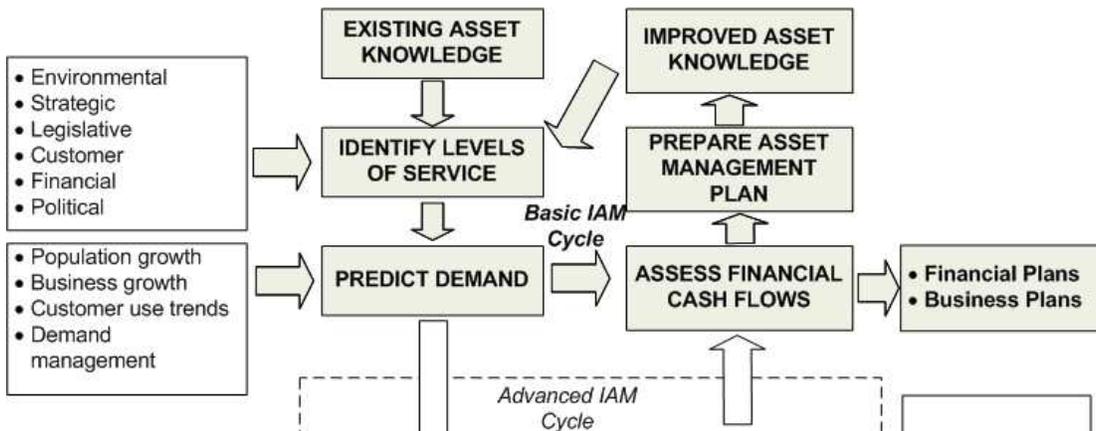
- qualified artisans
- process controllers (for treatment processes)
- skills in out-of-routine procurement.

4. Skills needed once or twice a year include all the skills required to undertake at least the basic IAM cycle (Figure 1), principally comprising:

- skills in the planning and organisation of the capture of asset knowledge
- skills in assessment of levels of service
- skills in assessment of demand growth
- skills in assessment of financial consequences arising from service provision scenarios
- asset management planning skills
- budgeting skills
- skills in the prioritisation of IAM.

In addition to the skills needed for IAM planning, senior management skills appropriate to being responsible for significant infrastructure and its operation, maintenance and forward planning are needed.

Figure 1: Basic IAM cycle



Where these skills might be found, and what their availability (irrespective of any procurement considerations) might be.

Consider firstly the situation generally found inside WSAs, and then consider if these skills might be found outside WSAs.

The situation generally found inside WSAs.

1. Skills needed every hour:

There is seldom a shortage of general workers, or of persons willing to be, and capable of being, general workers. However training, and supervision (and motivation) of the general workers often falls short. (See 2 below)

2. Skills needed once a day:

There is a general shortage in WSAs of all these skills. One of the consequences of this shortfall is that skilled people appropriate to this level find that they are spread too thinly, and thus, for example, instead of being able to visit their sites every day, and to carry out inspections and to supervise (say) operators, they can only get there a couple of times a week.

3. Skills needed once or twice a month:

There is a general shortage of these skills, also. In particular, there is a national shortage of qualified artisans.

All the issues listed in the paragraph immediately above, about skilled people being spread too thinly, apply here also, but at the higher level. Conversely, the people "needed once a day" do not have the ready access to the level above that they should have.

4. Skills needed once or twice a year include all the skills required to undertake at least the "basic IAM cycle":

Everything in the two paragraphs immediately above again applies, but at the still higher level.

Practitioners consulted on the work done for DWAF agreed that, whereas a post might be filled, it might sometimes be filled by someone insufficiently skilled and/or insufficiently committed. Thus it might in certain instances be necessary to supplement those skills, from outside the WSA, in order to get the tasks done.

Outside WSAs.

In theory, the public sector and parastatals can be tapped for the higher level skills. However the pool of skills even within these organisations is limited -- government departments themselves, for example, are short of skilled staff. Besides which, the people said to be available, although skilled and competent appropriately to their present job descriptions, might not have the skills (or temperament) best suited to their deployment at the local level.

An arrangement sometimes utilised is that the skills "needed once or twice a month" can be drawn from a district municipality or water board. For example the recent establishment in the Northern Cape of "operation and maintenance support units" within district municipalities.

An option could be to source the necessary skills from NGOs and the private sector. The availability of these skills does need to receive more attention than it has up to now. Together with:

- means of procurement by WSAs;
- possible contractual arrangements between the public sector on the one hand and NGOs and the private sector on the other; and
- (arguably the most important of all) means to ensure that the service objectives of such an arrangement -- which can be summed up as increased compliance with the delivery criteria laid down by DWAF -- can with increasing reliability and consistency be met.

With respect to ensuring that the service objectives can with increasing reliability and consistency be met, van Ginneken of the World Bank neatly summed up the criteria for success in what would need to be partnerships between the WSAs and the institutions, whatever their nature, that would be contracted to assist the WSAs. As follows:

“Lessons learned from success stories:

- Good design is necessary but insufficient ingredient for success
- Success depends on commitment of partners and trust
- Accountability is key, including
 - Transparency: give each other an account of activities and progress
 - Responsiveness: take account of each others' needs or concerns
 - Compliance: hold each other to account
- A balance needs to be struck between legalistic and partnership approach.” (van Ginneken 2007)

The WRC and the CSIR have investigated an innovative institutional arrangement, adapting the familiar principles of franchising. Significant improvements to operation and maintenance would soon be seen if the generally under-qualified or under-resourced water services staff of the municipalities and other water services authorities (WSAs) outside the major urban areas could enjoy ongoing support, mentoring and quality control -- or if the WSAs could enter into partnerships

with microenterprises which would, through franchising partnerships, enjoy the necessary ongoing support, mentoring and quality control, and would have quick access to skilled assistance when they needed it.

3. FRANCHISING PARTNERSHIPS FOR COMMITMENT AND ACCOUNTABILITY

How is it that in some parts of our country, confident that these products contain no contaminants, visitors and local people alike can fill up their tanks at a petrol station while eating food purchased at the local KFC or McDonald's -- but they cannot be sure that the water from a nearby tap is fit to drink, and that the local stream is not polluted by effluent from the sewers? ²

How can such a thing be?

Two very likely reasons are:

- One is that the manager or owner of the retail outlet, and also the staff, know that if they cannot provide that food or that petrol reliably every day, they will not be paid. If something goes wrong, they know that they have to get it right -- and quickly. That involves "commitment" and "responsiveness", as well as "incentive".
- Another reason is that the staff of the outlet, and all the people responsible for producing the product to be sold (e.g. those who refine the petrol), making sure that it gets to the outlet, and so on, are properly trained -- trained, that is, each to the level required for his or her respective job. ALSO they have an obligation (maybe a contract) to call for the higher levels of expertise when these skills are needed from those who have a matching obligation to provide that assistance. That is known as "capacity", as well as being "hold[ing] each other to account".

As described in this paper, the WRC and CSIR research has been addressing:

- What is it that makes the food outlet or petrol station work as well as it does -- what are the operational principles involved? And
- Can these principles be applied to providing acceptable sanitation and clean water --
 - First, will application of the principles have the desired effect? Can this bring the "commitment" and "accountability" that van Ginneken has observed to be "key" to success?
 - Second, can cultural and managerial challenges to applying these principles be overcome?

The operational principles involved are described in the next section.

² This is doubly astonishing, given that the oil from which the petrol is made has to be imported from very far away, whereas the "raw material", so to speak, for the clean water can be sourced from relatively close by, and it would seem logical to expect that it would be easier to ensure that something resourced locally could meet required standards.

4. FRANCHISING PRINCIPLES

In South Africa, the petrol station and the food outlet are very often franchisees, participants in franchising partnerships. The principles of franchising partnerships in the generic sense (i.e. not specific to water services or any other sector) can be summarised as follows:

- Franchises' successes are based on replication of prior successes, efficient logistics and a trained and capacitated workforce.
- Franchising is robust, and able to ensure consistent quality products and services.
- Franchisors are obliged to provide the franchisees with specialist expertise and other forms of assistance.
- Franchisees are obliged to adopt the tried and tested systems and procedures of the franchisors, and to accept the quality control of the franchisors -- resulting in assurance of more consistent quality and greater efficiencies.
- Franchises are able to constantly innovate and develop.

The cardinal elements of a franchise model can be summarised as:

- identifying components of the value chain that are simple enough to systematise;
- discovering good practices;
- systematising the identified component(s);
- selecting franchisors and franchisees;
- identifying financial and other risks to both franchisors and franchisees, and as far as practically possible reducing those risks;
- providing start up help, including initial training;
- preparing operations manuals;
- conducting ongoing research and development for the product or service and of the related market dynamics; and
- continuing support, training, control and discipline of the ongoing enterprise.

Franchising is a way of accelerating the development of an enterprise, based on tried and tested methodology. In short, the franchise system firstly correlates and systematises the business, and then facilitates the setting up of the business, and supports and disciplines it thereafter.

The key is the incentive, to franchisor and franchisee alike, to improve efficiency, and to provide improved service reliability and quality control -- thereby providing assurance that the quality of service will be consistent. (You know what you will be getting, whether you purchase the Shell or KFC product or service -- or the Postnet, Minit Print, Blockbuster Video or Master Maths (to name a few other franchises) product or service -- in Menlyn, Makhado, Mount Frere or Machadodorp.)

5. APPLYING FRANCHISING PARTNERSHIP PRINCIPLES TO WATER SERVICES

The franchising model is able to guarantee consistent quality in product and service -- for petrol, hamburgers, and many other goods and services. In contrast, the quality of the operation and maintenance of water services infrastructure in South Africa varies greatly from place to place, and as a result the quality of tap water, sanitation, treatment works effluent, and other water products and services varies greatly.

Could the application of franchising principles help to ensure consistent (and satisfactory) quality?

To address this question, the CSIR, with financial assistance and moral support from the WRC, has researched the application of franchising partnership principles to the operation and maintenance of water services infrastructure.

This research was carried out in the knowledge that there is limited experience of this approach having been applied to water services infrastructure operation and maintenance anywhere in the world, although some existing partnerships share some of the characteristics of the franchise approach.

A scoping study completed in 2005 (Wall 2005) found that franchising partnerships could address and alleviate many challenges in the management of water services. At the same time, franchising could support the development of local microenterprises and BBBEE, all within the public sector service delivery environment.

Further research by the CSIR (WRC, awaiting publication) has since then considerably explored and developed the concept of franchising partnerships in water services. The CSIR and WRC have collaborated with Amanz' abantu Services (Pty) Ltd and others in this work.

Thus the question: "Could the application of franchising principles help to ensure consistent (and satisfactory) quality?" may now be answered.

Significant improvements would soon be seen if the generally under-qualified or under-resourced water services staff of the WSAs outside the major urban areas could enjoy ongoing support, mentoring and quality control -- or if the WSAs could enter into partnerships with microenterprises which would, through franchising partnerships, enjoy the necessary ongoing support, mentoring and quality control, and would have quick access to skilled assistance when they needed it.

Given that the costs of the franchisor's higher levels of specialist expertise would be shared by several franchisees, the franchisor could afford to make this expertise available to each of them on an as-needed basis, and could provide other resources normally only available to larger water services providers. This holds significant benefits for WSAs.

The competence of the WSA, in its role as client, to monitor performance and enforce contract compliance would be key to it effectively using the microenterprise sector. However if an WSA is short of management resources, it would be using its existing resources more efficiently if it managed the work of a contractor, rather than if it tried to cope with the operational issues itself.

The argument for franchising partnerships as a means to improve efficiency in water services operation and maintenance does not depend on the case for or against the participation of for-profit organisations. There are already elements of franchising partnerships in some of the current activities of non-profit water services organisations in South Africa. For example, a valuable asset to several predominantly rural WSAs currently is the practice of appointing large water services institutions as "support services agents" to support water services providers that are NGOs (non-governmental organisations) and small, local CBOs (community-based organisations). Although

this arrangement is not franchising, development of the franchising partnerships concept has borrowed from it, and it could in turn benefit from adoption of some of the characteristics of franchising.

On the other hand, a few water services franchisors have long been operating in South Africa. They are successful financially and in terms of the service (operation and/or maintenance of an element or elements of the water services delivery chain) that they provide to their current market niche (which is invariably within the private sector). More than one franchisor would like to extend its services to WSA-owned infrastructure, but franchisors do not find the environment conducive to the sustainability of their business model. Thus a major motivation for the WRC and CSIR research has been the wish on their part to extend water services franchising beyond its current niches, and to explore and pilot the application of franchising across operation and maintenance of a range of public sector water services infrastructure elements. And thereafter to place in the public domain the business information (e.g. methods, financial viability) that is developed.

6. FRANCHISING PARTNERSHIPS DESIGN

The CSIR and WRC have therefore been researching a partnership concept, making use of the principles of franchising, for improved water services infrastructure operation and maintenance. In this concept, ownership of the water services infrastructure remains with the public sector (e.g. the WSA).

The concept has been formulated with a view to improving water services operational quality and efficiency through introducing an innovative (to water services) supply-side operation and maintenance provider mechanism.

Franchising might not be ideal, but it would, largely through providing access to higher-level skills, and the incentive to call upon those skills, in many situations offer the prospect of improved operation and maintenance of water services. Many South African public sector WSAs do not have staff or systems to deliver a reasonable service. Carefully designed sets of WSA/franchisor/franchisee arrangements, efficiently implemented, could assist. At the same time, franchising offers opportunities to the microenterprise sector and to local economic development. Franchisees are microenterprises, but their association with a franchisor gives them considerable advantages -- reflected in the better service that they can provide -- over stand-alone microenterprises.

Note that what is good or bad for microenterprises is good or bad for franchising partnerships. But the converse does not necessarily apply – or, putting it another way, a franchisee microenterprise, given the support it would receive from the franchisor, would in all likelihood find it easier to meet all regulatory and other requirements than would a stand-alone microenterprise, everything else being equal.

Further, whereas a business based on a single element of the water services delivery value chain might not be viable, a franchisee might be able to make a viable business by offering several water-related services, thereby achieving dual objectives, viz:

- economy of scale; and

- lessening dependence on one or a limited number of clients.

A WSA may require contractual recourse not only to the franchisee, but also to the franchisor, and for that reason the franchisor could be a co-signatory to the contract or a guarantor of the performance of the franchisee. This arrangement would, if it were deemed to be necessary, require an additional contract, one that closes the loop between the franchisor and the WSA. The WSA may require this contractual assurance that the franchisee will be supported by strong management, and also that the franchisor is able to make alternative arrangements which will ensure continuity of service should the franchisee for any reason whatsoever fail to meet its contractual obligations to the WSA. This assurance could especially be necessary if the franchisor's expertise or track record is a significant reason for contracting with a particular franchisee, and the franchisee is a largely unknown quantity.

7. CHALLENGES

There are however challenges of a cultural and managerial nature -- challenges not so much to franchising specifically, but to outsourcing of operation and maintenance generally.

The idea that the operation and maintenance (but not the ownership of the infrastructure) of water services, and other services commonly provided by the public sector, can be outsourced in part does require a mindshift on the part of practitioners in traditional non-profit organisations. There is sometimes perceived to be an inherent tension and a conflict between the achievement of social objectives and earning "profits".

Another challenge could be present in the underlying assumptions of what is acceptable and desirable in an organisation. For instance, business culture encourages and rewards risk taking, whereas the non-profit sector prefers to minimise risk.

Human relationships between the private sector and the public sector could constitute another challenge. There is often an arm's-length relationship with the end customer in business, whereas there could be a closer relationship between the providers of public services and those receiving the services.

Cultural differences between the roleplayers in any implementation of franchising of public services may be considerable, as these roleplayers would probably include both business and non-profit sector. Many franchisees, in South Africa anyway, are likely to be from the social sector or from a disadvantaged background and hence without exposure to business culture. Inter alia, they will need to understand and accept the making of a profit or surplus as a means to achieve sustainability.

The pursuit of public sector service delivery objectives through means that utilise franchising partnerships principles has thus far a very limited track record. However, in respect of water services infrastructure operation and maintenance, it would appear to have considerable potential to improve delivery, to the benefit of the communities that would be served.

8. FRANCHISING PARTNERSHIPS POTENTIAL

The water services franchising partnerships concept is very attractive for a number of reasons, but in particular that, where it is put into practice, it would address the lack of higher-level expertise that has so often been identified as a key to improvement of service, especially in the more remote areas. The local staff would be able to deal with day-to-day operational needs, but would not be able to deal with anything more demanding than that. The essence of water services franchising partnerships is the creation of a pool of appropriate expertise upon which the local operators can draw, a restructuring of the local responsibility for operating, and the creation of a two-way obligation -- an obligation to call for assistance from the pool, and an obligation to respond rapidly to that call. All of these measures together with the incentive structures to ensure that the desired end result is achieved.

In brief:

- On most days at the (for example) treatment works, nothing out-of-the-ordinary would be happening. Staff of the local franchisee, who are appropriately skilled, are able to cope.
- When major maintenance or upgrading is needed, or when there is a breakdown -- those staff know who to call at the franchisor in order to bring the higher level of skill.
- And the franchisee's staff know that the franchisor WILL help, because there would be a binding contract and a shared reputation.
- The obligation would be two-way -- an obligation on the franchisee to ask for help, and an obligation on the franchisor to give the help.
- Cost of the higher skills levels, which are needed only intermittently, would be spread across many franchisees and sites -- thus cost per site is low.

The franchisees could be microenterprises and/or CBOs. The franchisors would be any institutions -- private sector, parastatals or NGOs -- that have the required expertise, are willing to provide the service, and would not enter into conflict of interest were they to offer to provide the service.

There are already many potential sites for water services franchising partnerships, in the sense that much water services infrastructure is already in place but is not being operated and maintained properly at the present time. Many of these sites fall under the jurisdiction of or are owned by WSAs, but other sites belong to other public sector institutions such as schools and clinics. Help from franchisors would be of particular value to WSAs at a distance from the major urban centres -- few rural municipalities in South Africa can afford to employ competent qualified staff, and this directly results in periodic unreliability of supply and frequent non-compliance with national standards relating to, for example, the quality of effluent from wastewater treatment works. A franchisor can ensure a professional approach, quality control, and ongoing training, as well as advice and help as and when needed by the franchisee.

Water services operation and maintenance tasks with apparent potential for franchising include (but are not limited to) leak detection, borehole management, management of municipal treatment works, management of treatment package plants, meter reading, pit-emptying services, laboratory services, data management, demand and pressure control management, and site and property management. The CSIR has modelled some of these elements.

In setting up a franchisor-franchisee partnership, the sequence of events would probably be that it will initially only be companies or large NGOs seeing themselves as potential franchisors that will have the capacity to initiate water services franchising partnerships proposals. They would select water services elements and formulate the business models to go with each (unless these were already available). They would then look for sites to apply the models, and seek the cooperation of the WSAs or other infrastructure owners. Finally they would offer the business to potential franchisees, or they would attempt to nurture potential franchisees. As water services franchising in South Africa spreads, however, the initiative may come from others.

9. TO SUMMARISE

Generically, franchising:

- transfers appropriate skills to local personnel,
- brings ongoing assistance, mentoring and quality control, and
- provides backup at-a-distance skills together with the incentive, on the part of the local (franchisee) personnel, to call for those at-a-distance skills and, on the part of the franchisor, to make them available, because there is a binding contract between them and a shared reputation.

Considering the "lessons" listed by van Ginneken, with respect to "success depends on commitment of partners, and trust" and "accountability is key", these are undoubtedly ingrained in the principles of franchising. "Commitment" can be illustrated by the obligation on the part of the franchisee staff to call for help when they are confronted by a task that they are not trained to tackle, and the counterpart obligation on the part of the franchisor staff to assist them in undertaking this task successfully.

CSIR research, together with the WRC, has explored the concept of franchising partnerships in water services -- three-party partnerships, that is, between franchisor, franchisee and the owner of the water services infrastructure. Findings indicate that many opportunities lie in the franchising of suitable parts of the water and sanitation services value chain -- of operation and maintenance activities inter alia "suitable" for small enterprises in that they can be readily systematised. A selection of these opportunities has been modelled, so that they can be made available to emerging entrepreneurs as the basis of viable businesses. Interested potential franchisors and municipal water services authorities have been identified. Procurement issues have been identified. Principles for embarking on water and sanitation services franchising (for use by services authorities, potential franchisors and potential franchisees) have been drafted.

10. IN CONCLUSION

The on-paper studies have been taken to the point at which the concept is described and it is made sufficiently clear that it could work, where it could work, and how it would work. If the environment is favourable, potential franchisors will, it is hoped, seize the opportunity, and will do the detailed modelling to suit their abilities and the circumstances to which they see the concept being applied. Only in piloting will the benefits be demonstrated. Also, unanticipated challenges will be identified -- and overcome.

The potential for water and sanitation services partnerships in South Africa is immense. Already, at least one large water services provider is using the knowledge generated to set itself up as a franchisor, expanding its existing range of activities into the franchising arena.

Finally, a foreign donor has agreed to substantial funding of advocacy, piloting and other work over the next three years. The intention is that the funding would be used to add value to public sector budgets -- for example that, by employing franchising principles, selected water services infrastructure operation and maintenance funding that is already in public sector budgets, but is not being spent effectively and efficiently, would be unlocked.

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- Report No 4: "Report on the current environment and on in-principle roleplayers".
- Report No 5: "Report on selection criteria: franchisors, franchisees, pilot areas and sites".
- Report No 6: "Case study of hypothetical situation".
- Report No 7: "Going with the franchising flow": An exploration of franchising partnerships for the operation and maintenance of water services infrastructure".