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water utility management
INTERNATIONAL

ANALYSIS

FEATURES

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New ISO standards for safe drinking water

A suite of new ISO standards has been produced to offer the international community practical tools to address the global challenge of effectively managing limited water resources to provide access to safe drinking water and sanitation for all.

The three standards provide guidelines for service activities relating to drinking water supply systems and wastewater systems, and are designed to help water authorities and their operators to achieve a level of quality that best meets the expectations of users and the principles of sustainable development.

The first is ISO 24510, 'Activities relating to drinking water and wastewater services – guidelines for the assessment and for the improvement of the service to users'. This is service-oriented standard that provides a brief description of the components of the service relating to users, core objectives with respect to users' needs and expectations, guidelines for satisfying these, assessment criteria for services to users in accordance with the guidelines and examples of indicators linked to the assessment criteria that can be used for assessing the performance of the service.

ISO 24511, 'Activities relating to drinking water and wastewater services – guidelines for the management of wastewater utilities and for the assessment of wastewater services', and ISO 24512, 'Activities relating to drinking water and wastewater services – guidelines for the management of drinking water utilities and for the assessment of drinking water services', are both management oriented.

The standards aim to provide the relevant stakeholders with guidelines for assessing and improving the service to users, and with guidance for managing water utilities consistent with the overarching goals set by the relevant authorities.

The standards are strongly oriented towards developing countries and a first trial has been launched in some African countries. ●

US EPA sets out wastewater needs

A US EPA report on wastewater infrastructure needs has estimated a capital investment of $202.5 billion is needed across the nation to control wastewater pollution for up to 20 years.

The Clean Watersheds Needs Survey, based on 2004 data, has been presented to Congress. It outlines the results of the EPA's 14th national survey of the needs of publicly-owned wastewater treatment works.

The estimate includes $134 billion for wastewater treatment and collection systems, $54.8 billion for resolving unsatisfactory combined sewer overflows (CSOs) and $9 billion for stormwater management.

The report also documented individual state requirements, with New York and California being identified as having the largest reported publicly-owned wastewater treatment works needs, both in excess of $20 billion. Florida, Illinois and Ohio all have needs in excess of $10 billion.

The needs for wastewater treatment include the capital costs of replacement, rehabilitation, expansion, upgrade or process improvement of existing plants and construction of new treatment works.

Needs for CSOs include measures for preventing or controlling periodic discharges of a mix of stormwater and untreated wastewater that occur during rainstorms when systems surcharge. 28 states and the District of Columbia reported $9 billion in stormwater programme management needs.

Recycled water distribution is a new category designed to reflect the trend towards using recycled water. 15 reported $4.3 billion in recycled water distribution needs, with California and Florida accounting for 84% of these needs at $1.9 billion and $1.7 billion respectively. ●

Helcom signals IFI involvement

Just ahead of the 29th annual meeting of the Helsinki Commission, the third stakeholder conference on the HELCOM Baltic Sea action plan concluded by setting up a preliminary road map for the involvement of international financial institutions (IFIs) in the implementation of the strategic programme to restore the Baltic Sea, which was adopted by the HELCOM member states last year.

The financial aspect of the plan's implementation was one of the top issues at the conference. Participants, representing governments, scientific and business communities of the Baltic Sea coastal countries as well as the EC and major regional organisations, discussed the availability of sources of funding, involvement of IFIs and the private sector.

Attention focused on understanding the requirements for providing financing support, as well as how to prepare successful projects to ensure and increase the investments for marine environmental protection. ●

water utility management
INTERNATIONAL

EDITORIAL

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Water Utility Management International focuses on the interests of utility executives, policy makers and advisors around the world engaged with the key management issues faced by water and wastewater utilities. As well as senior utility managers, the publication will be of interest to regulators, consultants, contractors, academics, and financial, technical and legal professionals.

Utility reform and achieving efficiency are central themes of the publication, encompassing topics such as benchmarking, investment planning, consolidation, public / private sector roles, leadership, IT, and human resources. Other regular themes include financing, regulation, charging policies, procurement, corporate governance and customer issues.

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UK competition review

The independent review of competition and innovation in the water industry, announced when the UK government launched its new water strategy for England in February, is to be led by Professor Martin Cave, a competition expert who was a member of the Competition Commission.

Secretary of State Hilary Benn also announced that the government would be taking forward two recommendations of economic regulator Ofwat alongside the review. One is to help ensure that customers of new entrant suppliers would continue to receive water in the event of an incumbent going into liquidation or otherwise failing, and another that will enable all new entrants to compete for national water supply contracts on an equal basis.

When announcing Professor Cave's appointment, Mr Benn also set out the terms of reference of the review. It will have the principal goals of increasing efficiency of water use and delivering benefits to both business and household customers.

The review will also consider the scope to deliver benefits and drive innovation through developing competition and contestability throughout the sector's supply chain and will recommend changes to legislative and regulatory frameworks needed to deliver those benefits.

It will also assess the costs, benefits, risks and feasibility of extending competition and contestability by looking at potential models in liberalised markets, best practice in other industries and demand from stakeholders.

This will include consideration of the impact of proposed changes on availability and sustainability of supplies, prices, quality of service, public health, the environment, water efficiency, innovation, research and development, investment in infrastructure and reducing regulatory burdens.

The review will consider changes that can be made to the current regime through secondary legislation as well as changes that would require primary legislation. It will consider eligibility thresholds, water supply licensing provisions, including the cost principle and policy on access pricing generally, and extending access to sewerage services.

It will also look at Ofwat's competition powers, statutory inset appointment provisions, water abstraction issues and any other specific changes that would deliver benefits and drive innovation through further competition and contestability. ●

US support for sustainability

The US EPA has announced the arrival of tools and information to aid communities in improving their water systems' sustainability.

Two new documents describe the EPA's work on the issue. The first, the 'National capacity development strategic plan', outlines how the EPA, state drinking water programmes, system owners and operators, and technical assistance providers will collaborate to achieve the objectives and desired outcomes of the national capacity development programme.

The strategy outlines how the EPA and its partners will promote proactive communication and outreach to help the establishment of long-term sustainability.

The second document, 'Analysis on the use of Drinking Water State Revolving Fund set-asides: promoting capacity development', explains how states have used their funds.

This guide is intended to help state drinking water personnel, drinking water system owners and operators, and technical assistance providers to understand better how the DWSRF can support capacity development programmes and the EPA's sustainable infrastructure initiative.

In addition, the EPA has produced a new step-by-step guide, 'Ensuring a sustainable future: an energy management guidebook for wastewater and water utilities', to help utilities to undertake a systematic assessment of their current energy costs and practices, set measurable performance improvement goals and monitor and measure their progress over time.

Rising energy costs and environmental effects have made energy use one of the key challenges facing water utilities and driving down these costs has been put at the heart of sustainability efforts.

This guidance follows the successful plan-do-check-act methodology, which is used in environmental management systems and other utility management tools. It was developed with the help of utilities that have been successfully meeting their own energy challenges using this approach. ●

CHINA: Billion-dollar pollution plan
A Chinese official has announced that the country will spend some $1.28 billion on water pollution control projects in the south-western municipality of Chongqing to ensure the Three Gorges reservoir area does not become polluted. The revised programme for the reservoir area and the river's upper reaches, which involves instigating urban wastewater treatment, rubbish disposal and industrial pollution control, has been approved by the State Council.

GLOBAL: Global Sanitation Fund launched
The Water Supply and Sanitation Collaborative Council has launched the Global Sanitation Fund, the first global financing mechanism to increase expenditure on sanitation and hygiene. The fund aims to help achieve the WSSCC's vision of improved sanitation services and good hygiene practices for all. It will support national efforts to help larger numbers of poor people attain sustainable access to basic sanitation and good hygiene practices.

IRAQ: Red Cross warns that Iraq still lacks clean drinking water
The International Committee of the Red Cross (ICRC) has warned that five years after the US invasion of Iraq, millions there still do not have clean drinking water and medical care. In a report marking the anniversary of the start of the war, the organisation found some areas with no functioning water and sanitation facilities, with the poor public water supply forcing some families to spend at least a third of their average income buying clean water to drink.

Utility aid for energy management

AwwaRF has announced the publication of a new report on a comprehensive risk management framework to aid water utilities in developing effective energy management strategies. The framework covers environmental, social and economic outcomes.

Water utilities are increasingly active in managing the energy used to treat and deliver drinking water, spurred by increasing energy costs and a growing awareness of the impact of energy use on communities and the environment.

AwwaRF sponsored the study on which the report is based in collaboration with the California Energy Commission, to provide water utilities with systematic approaches to effectively manage energy consumption while avoiding unintended consequences to public health and safety, or the reliability of their systems.

Robert C Renner, executive director of AwwaRF, says: 'The risk management framework provided in this report serves as a comprehensive guide for utilities making operating changes in response to energy-reduction imperatives. It will help water suppliers evaluate any potential downside to new energy-management strategies that may impact their system or their environmental and financial goals.'

The risk management framework can be applied both to utilities already undertaking comprehensive energy optimisation and to those that are focusing first on basic approaches and building an energy-management programme as they progress.

AwwaRF has also announced a strategic initiative that will immediately allocate $500,000 to fund ongoing research on how climate change is affecting the quality and quantity of the drinking water supply.

Mr Renner said: 'AwwaRF is committed to a sustained, multi-year approach to evaluating climate change so we may ultimately provide solutions to the challenges that climate change presents to our nation's drinking water suppliers.'

The initiative followed a two-day climate change workshop co-sponsored by WERF and UKWIR. Attendees included climate change experts and water utility representatives and managers from the US, UK, Canada and Australia.

The objective of the international workshop was to identify cooperative international research projects spanning water, wastewater and urban stormwater, that will help the water industry to plan for and manage the dramatic variations in annual water supplies predicted from climate change.

The plenary session consisted of a summary by water industry representatives on climate change research and utility initiatives already in place to address its effects on water quality and quantity.

Presenters included Steve Whipp of United Utilities, representing UKWIR, Kevin Bradley of the Water Corporation of Australia, representing Australian research initiatives, Chris Rayburn from AwwaRF, Dan Woltering of WERF, Erica Brown from the Association of Metropolitan Water Agencies, David Behar of the San Francisco Public Utilities Commission, representing the 'Group of Eight' initiative, and Mark LeChevalier from American Water.

After the plenary, workshop attendees formed working groups to identify the most pressing research needs in a number of areas. These include water quality, including impacts on storage, conveyance and demand, treatment, and adaptation and management practices.

Other potential areas of research included water resources, including impacts on the hydrological cycle and adaptations in water resource planning; infrastructure, including the impacts of climate change on water, wastewater and stormwater infrastructure; energy and environment, including mitigation opportunities for greenhouse gases in water supply and wastewater treatment; and management and communications, including impacts on customers, utility managers, capital needs and adaptation in communications.

As a result of the discussions, attendees identified over 50 research needs and priorities, including a number considered to be of the highest priority. These are evaluation of impacts of underground carbon dioxide on groundwater supplies; interpreting climate change models for water supply; designing infrastructure systems of the future; providing vulnerability assessment and risk management tools; and optimising resource recovery and integrated processes.

Mr Renner said: 'Thanks to a collaborative approach from water managers representing drinking water, wastewater and stormwater interests in North America, Europe and Australia, we were able to identify the most pressing climate change research projects related to our industries.

'Although the funds from AwwaRF's strategic initiative will serve as important seed money, it will take a collaborative effort among drinking water and wastewater subscribers and associations, their research partners and the federal government to find the funding to ensure research on key climate change projects moves forward.' ●

Loans and tenders

NIGERIA: EU approves funds for reform programme

The EU has approved extra funds to implement Nigeria's water supply and sanitation sector reform programme in the country's Cross River state. The money, which will enable the state's 2008 work plan, is part of a total €87 million ($128 million) provided by the EU for this programme. Under the plan the state will be given support to review and reform institutional arrangements for water and sanitation services provision at all levels, including the development of a state water policy. It will also finalise the review of rehabilitation needs in three urban areas and prepare for a call for bids to rehabilitate and extend existing works.

CHINA: World Bank approves loan for Bengbu

The World Bank has approved a $100 million loan to China to help improve the water supply and manage wastewater for a major urban centre in Anhui province, 400km west of Shanghai in the east of the country. The Bengbu integrated environment improvement project will focus on improving water management in the middle and lower reaches of the Huai river basin. Bengbu municipality has a population of around 3.5 million.

CHINA: ADB provides funds for Kunming supply

The ADB has lent China $180 million for rail and water supply projects. Of this, $80 million will help to develop a safe water system for the city of Kunming by 2012, in a project aimed at improving living conditions and health in the city. The area currently takes supplies from the polluted Dianchi lake.

NORWAY: Financing boost for ADB water financing facility

Norway has joined Australia as the second contributor to the multi-donor trust funds administered by the Asian Development Bank (ADB). The Water Financing Partnership Facility was established in 2006 to provide ADB's water financing programme with resources to support demonstration projects and to support the quality of the programme. There is also a Clean Energy financing partnership. Norway is to allocate NOK10 million ($1.8 million) a year from 2007 to 2009 to each fund.

BRAZIL: Bank agrees loan for infrastructure strengthening

The World Bank has agreed a loan of up to $18.9 million for a project to strengthen the capacity of the municipality of Pelotas, in Brazil's southern region, to provide selected infrastructure and employment opportunities for its population. The funds also support the municipalities of Bagé, Pelotas, Rio Grande, Santa Maria and Uruguaiana in the state of Rio Grande do Sul. Among the projects to be financed by the loan are water supply, sanitation and drainage systems in both urban and rural areas.

NEPAL: ADB announces revised funding for delayed project

The ADB has announced revised terms for a delayed water supply project in Nepal, which involves creating a 26km tunnel to bring water to 1.5 million people in the arid Kathmandu valley. A redesign of the project had significantly reduced the predicted outturn cost, and the bank is now set to lend $137 million. Further support will be provided by JBIC, JICA, the Nordic Development fund and OPEC's fund for international development. The project is split into two elements, the tunnel and water supply and sanitation works. ADB also removed a previous requirement for a private-sector management contract.

UK innovation on financing

Creative Business Finance (CBF) has launched a new service that is being marketed as a way for water industry businesses struggling to borrow critical funds to have access to cash previously unavailable to them.

The Debt Boutique will provide funding solutions to companies that have previously been unable to secure funding. The range of niche lending products, targeted at the UK market, will comprise bespoke funding packages tailored to client requirements.

The venture and products are backed by private capital, so the first solutions now on offer are for funding long-term contracts, particularly in green projects such as alternative energy and waste recycling.

Creative Business Finance director and financial expert, Mark Blayney, says the new offering is long overdue: 'As an advisor it is always frustrating when we find clients with financing needs, such as a requirement to borrow against expected future cash flows, which existing sources of funds are often unable to meet.

'That is why we are so pleased to launch this service, as we know it will be in demand by water industry businesses as we will be able to offer them the opportunity to thrive.'

The first product launched provides funding in £1 million batches, on five year terms, at what CBF says are competitive rates of interest. Larger sums can be accessed by splitting funds into a number of lines or over a number of years.

Mr Blayney added: 'We want more businesses to think about opportunities for growth, and we believe through the funding on offer, and the accessibility of our support, we can help businesses realise their ambitions.' ●

Cascal contract for Yancheng

Cascal has announced that its subsidiary, China Water, has signed a 30-year contract with the Yancheng city government to convert the state owned local water company into a public-private partnership (PPP).

The city of Yancheng is in Jiangsu province, which lies on China's eastern seaboard. Through a competitive bidding process, China Water was approved to acquire a 49% stake in a new equity joint venture that will be granted a 30-year concession to deliver water services to the city's 600,000-plus population. China Water is proposing an improvement strategy aimed at ensuring Yancheng's water service is in line with 'best in class' standards.

China Water's managing director, Bob Taylor, noted: 'The Yancheng project represents a very important milestone in the evolution of the China Water group. We are very proud to be working with the government of Yancheng on this project and we are confident that our particular blend of Chinese and international experience will bring tangible long term improvements to the quality of water services in Yancheng.'

China Water is working with the Yancheng government to obtain the necessary regulatory approvals from the provincial government, with the completion of the transaction being subject to gaining these. ●

Business

SAUDI ARABIA: Minister highlights huge water investment plans
Loay al-Musallam, head of privatisation and deputy minister of planning and development at Saudi Arabia's ministry of water and electricity has told a meeting that the country plans to invest at least $40 billion over the next 20 years to meet the kingdom's water needs. The investment estimate was 'conservative', he told the power and water conference. A new national water company being set up to help boost the desert kingdom's supplies will be operational this month, he added. At a project signing ceremony, Mr al-Musallam also called for water conservation measures, both at corporate and individual levels, to help make the most of natural resources.

MIDDLE EAST: Research predicts $100 billion investment requirement
The Institute of International Research, Middle East, unveiled findings that the water supply industry across the region would need investment of around $100 billion over the next ten years ahead of a four-day water exhibition. Factors driving the boom include the rapidly-expanding population, rapid urbanisation and need for irrigation, according to the experts that collated the survey. Saudi Arabia alone requires $53 billion to increase its desalination capacity to meet forecast demand.

POLAND: Veolia Water wins Warsaw wastewater contract
Veolia Water, via subsidiary Veolia Water Solutions & Technologies, has won a contract in a consortium that includes Polish civil engineers Warbud and German water company WTE, to upgrade and extend the Czajka wastewater treatment works in Warsaw, Poland. The contract is worth an estimated €500 million ($737 million) for the consortium, of which around €148 ($218) is Veolia Water's share. The new plant will treat 435,000m^3 of wastewater a day and up to 515,000m^3 in peak periods. The work will be undertaken in phases to ensure the plant can operate continuously throughout the upgrade. The contract is scheduled for completion at the end of 2010.

DUBAI: Contracts for water treatment and recycling
Veolia Water, through subsidiary Veolia Water Solutions & Technologies, has won two contracts in Dubai for wastewater and brackish water treatment and recycling installations worth €22.4 million ($32.9 million). The first contract, awarded by Palm Water, covers turnkey delivery of a recycling wastewater installation on the Palm Jumeirah island, one of three luxury artificial islands created in the Persian gulf that will double the shoreline of the city of Dubai. The second contract is for treating the water in the artificial lake that borders the Burj Dubai tower, which will be the world's highest when it is completed.

SINGAPORE: PUB awards latest reuse contract
PUB, Singapore's national water agency, has awarded the contract for the fifth and largest NEWater plant at Changi to Sembcorp Utilities (Sembcorp). Sembcorp won the bid to design, build, own and operate the plant in an open tender. The plant will have a production capacity of 50 million gallons per day (189.5 million litres/day).

QATAR: Company signs contract for Ras Abu plant
Qatar Electricity and Water Company has signed a $460 million contract to build a water production plant at Ras Abu. The plant will generate 45MGD (170.3MLD) and will be the only one of its type in the country. The plant is due to be opened in the summer of 2009.

UK: Thames set to launch Leakfrog
Thames Water is to put into widespread use the 'Leakfrog' device to reduce its leakage levels by as much as 25%. The device is attached to a customer's water meter and will reveal if any leakage is present on the domestic pipe system. The company estimates that 25% of its leakage is from customers' pipes. The devices can be simply fitted in large numbers to meters.

FRANCE: Suez wins Lyon contract
Suez Environnement has won an €60 million ($86.9 million) contract from the city of Lyon in France to build and operate a new wastewater treatment works at La Feyssine for three years. The plant will treat wastewater for the 300,000 residents of the Greater Lyon area, and the contract has an option to include additional systems to enable energy and agricultural recovery from treated sewage sludge. Lyonnaise des Eaux, the water treatment subsidiary of SE, has signed a 20-year, €124 million wastewater management contract with the city of Grasse, in Provence, France. LdE will provide €7 million ($10.1 million) in investment financing for the project, which serves 50,000 people.

Assessing the impacts of England's new strategy

A new water strategy for England has implications for the water utilities, who will be the ones responsible for much of the implementation. **LIS STEDMAN** reports.

The UK government's new water strategy for England, set out in the Department for Environment, Food and Rural Affairs (Defra) document 'Future water', makes a number of radical changes to current thinking and practice for the water industry.

One interesting strand suggests the government has been listening to some of the messages from the water industry. For some time after the 1997 election there was a gladiatorial feel to the statements coming from central government, with the water industry very much on the defensive.

In this new document, Environment Secretary Hilary Benn notes in the preface that 'we need to plan ahead and each of us needs to play our part'. This acknowledgement of a wider customer responsibility will be very welcome to the industry, which has struggled to find inducements that will further the customer side of demand management.

The Water Saving Group is to review the water efficiency measures in place for industry and commerce, and the report adds that 'stronger and more consistent water saving messages from Government and other stakeholders are also needed to raise awareness and encourage behaviour change.' The water industry must, it adds, demonstrate its commitment to demand management by meeting its leakage reduction and water efficiency targets.

The report also backs the twin-track approach, saying 'new or enhanced supply may be inevitable in some areas to complement demand management measures and deliver the necessary long term resilience.' This acknowledgement will be welcome news for the water industry, which has struggled to get across the message of the long lead-times needed to provide new sources such as reservoirs. The report envisages the statutory 25-year water resource management plans produced by the companies as becoming a vital tool in climate change adaptation efforts.

The Environment Agency will be pleased to see the note that planning authorities will need to work 'particularly closely' with it and the water companies on timing and numbers of new households in the areas most likely to see the greatest growth. It calls the recent report on the feasibility of water neutrality – where a new development's total water use is no more than that used before the development – a 'compelling vision which must now be explored further'.

The government has commissioned an independent review of last summer's flooding, and the report also seeks to find solutions to surface water flooding. The report observes: 'It is more sustainable to manage surface water, especially storm water, in a way that allows it to be reused or allowed to permeate naturally through the catchment rather than being directed into and potentially overloading the public sewers.

This clearly indicates a move in thinking towards strongly advocating Sustainable Drainage Systems (SUDS), known as BMPs in the US. The report adds that the government wants to use surface water management plans as a tool to improve coordination of drainage stakeholders, and to promote SUDS by clarifying responsibilities and improving incentives for property owners and developers. These issues are being consulted on, including options for ownership and maintenance of these systems.

This is exciting news, in that the main issue in adoption of SUDS in England has been the thorny question of management and ownership. In Scotland, where these issues have been clearly defined, the take-up of SUDS has been far greater, and there are some major schemes in place such as DEX, the Dunfermline East expansion zone.

Rainwater harvesting is also to be encouraged, where appropriate, through the use of water butts and whole-building systems with underground tanks. Changing household behaviour will be pushed by the Consumer Council for Water's (CCWater) collaboration with Waterwise on development of a long-term national strategy to encourage the efficient use of water.

The government has also woken up to the carbon impact of the water industry's energy use and the fact that saving water reduces emissions. Though the industry emits less than 1% of the UK's total greenhouse gas emissions, the report points out that there is a 'real risk' that this will rise with water demand and more ambitious standards for water quality in the natural environment. The industry is instructed to 'explore its significant potential for renewable energy generation and use', a statement that particularly applies to the 'big ten' water service companies with their methane-generating sludge treatment processes.

Mr Benn also gives the clearest welcome to metering yet, noting: 'We intend to reduce demand, through better building design, more efficient appliances and improving industrial processes, and ensuring that as we move increasingly towards water metering in areas where supplies are under pressure this is done in the fairest and most effective way, so saving water and reducing bills.'

The report points out that metering is the usual method for charging in most of Europe, that it is a 'fair way' to pay for water, and that it introduces a financial incentive to save water. Government feeling has been shifting gradually towards the idea of metering as beneficial for some time. Last year, the regulatory framework was changed to make it easier for companies in water-stressed areas to meter compulsorily, a right that so far only Folkestone and Dover Water has won but which others, including Essex and Suffolk, and Sutton and East Surrey, are likely to be encouraged to apply for.

Interestingly the report also picks up on the waste of hot water in the home being a waste of energy as well. It points out that hot water use in homes is responsible for 35 million tonnes of greenhouse gas emissions each year, over 5% of the total. Water efficiency measures, particularly those focusing on hot water use, are doubly beneficial. 'We must do more to promote these types of water savings which have multiple benefits,' the report adds.

Good forecasting of demand will be essential, the report notes, taking account of likely changes in lifestyle, household make-up, population and temperatures from region to region.

Water quality issues are likely to be tackled closer to source with the observation that phosphates in domestic cleaning products may be phased out – the report commits to a consultation on this.

The report also forecasts an independent review, later this year, of the regulatory framework and how it might be improved to encourage competition, which so far has disappointingly failed to take off in the water industry. The government will also consider innovation, improvements in customer service, better regulation and efficiency in the water industry for the benefit of customers and the environment.

The report sets a series of targets that should be achieved by 2030, which includes improving the water environment, sustainably-managed risks from flooding and coastal water with greater understanding and more effective management of surface water, and 'fair, affordable and cost-reflective water charges'. Greenhouse gas emissions will also be cut and continuous adaptation to climate change and other pressures embedded across the industry and users.

The report replaces the government's previous document, 'Directing the flow', while retaining a commitment to its action points. The holistic approach to the sustainable management of water resources for the water supply and ecosystems has won general approbation. There is much in the detail that will provoke discussion and thought and even indicators for other countries, across the whole spectrum of water issues.●

Performance Assessment of Urban Infrastructure Services
Editors: Enrique A Cabrera, Jr. and Miguel Angel Pardo
Performance assessment has been one of the hottest topics in the water industry in the past decade. In that period, the International Water Association has played a key role, and the performance indicators systems developed for drinking water and wastewater utilities have become a reference worldwide.

This book represents a collection of the papers presented to the Pi08 Conference, in Valencia, Spain (March 2008). The conference represents the final stage in the COST C18 Action, funded by the EU and brings together some of the most relevant professionals in the water industry.

The book covers the latest trends in performance assessment, as well as relevant case studies from practical applications in utilities around the globe.

Themes:

- Performance Indicators
- Metric Benchmarking
- Process Benchmarking
- Asset Management
- Regulation
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Reform of China's Urban Water Sector
Authors: Tao Fu, Miao Chang and Lijin Zhong
Edited by the Water Policy Research Center of the Environment Department of Tsinghua University, this comprehensive report on the Chinese water sector is a collection of findings from recent research conducted by the Center and government consultancy reports.

The report presents an overview and analysis of the current situation of the reform of the Chinese urban water sector. This is followed by case studies and appraisals on 17 water industry reform measures collected by the authors in 14 cities. The report then examines key problems of the current water industry reform.

The comprehensive scope of this report, the level of detail, as well as the authors' insights together make this document a unique reference on China's water industry, as well as an important guide to the future of China's water management.

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Italy's sector uncertainty

With it's current turbulent political climate, the future of Italy's water sector is still a contentious issue. **RENATO DRUSIANI** speaks to **LIS STEDMAN** about renationalisation and the right for local communities to choose for themselves.

Renato Drusiani is associate manager in the director's office of Italy's water and power trade body, Federutility. The critical situation of the water industry there is underlined by his forthright views on progress so far and the likely future prognosis.

The industry's fate is inextricably linked to the country's complex and shifting political situation. The country was until very recently ruled by a coalition comprising, in generic terms, nine parties among which was a left-wing party, a centre-left party and an extreme left party. Mr Drusiani explains that the extreme left party made a great many demands of the Prodi government, which collapsed in January. This has left the country in flux in terms of what is happening to the water industry, though its future was difficult enough to predict ahead of the current crisis. Whether elections will be held is still unsure as the existing coalition battles for equilibrium.

Prior to the collapse, the demands of the extreme left party included renationalisation of the country's water industry, with proposed legislation similar to Venezuela's 2001 nationalisation law promulgated under president Hugo Chavez. Because of that, for a year the assignment of water services to other forms of ownership or management has been halted while discussions take place about the industry's future.

So much has changed since the 1994 Galli Law which, in the wake of privatisation in the UK, provoked much speculation about the future shape of Europe's water sector. This much-praised legislation was supposed to achieve a number of aims: to consolidate Italy's fragmented water industry into a coherent system of 'optimal territorial units'; to achieve integrated management of the entire water cycle based on entrepreneurial criteria; and to introduce a fee that covered operational, investment and financial costs.

That legislation, and the vision it outlined, must now be considered defunct, though there is no clear picture yet of what solution might take its place. Federutility has been campaigning for the government to allow all of the three current forms of water industry organisation to remain as options – concession, public and private ownership.

Mr Drusiani explains: 'We are against this objective [of renationalisation] because in our opinion we do not favour a system of only private or only public water bodies; we should have whatever system each local community believes is best.'

The three possible options (until the moratorium) for the small governmental units currently tasked with deciding the format of the country's water industry were either to set up a concession for a private operator by public tender, assign operations entirely to a public operator, essentially in-house provision, or to create a public-private partnership (PPP), in which the private partner is chosen by tender.

Mr Drusiani notes: 'There is a large debate in Europe about this form of managing of public services because in the past the EC was against this form of management - it had the old idea of the World Bank that the only system is concession to a private operator.' He is hopeful that the late-2006 resolution of the European Parliament, which stated the complete legitimacy of public-private partnerships in the management of services, including water, will help to ensure all options remain on the table. He says: 'It is a resolution that we were looking forward to as it dispels the situation of uncertainty due to the

fact that the stance adopted by the European Court of Justice is not always homogenous.'

That situation has changed somewhat of late: for example, a decision was taken last year by the European Parliament to invite the EC to define the nature of PPP contracts and to prepare European legislation about this form of ownership and operation, because at the moment, Mr Drusiani explains, it is not exactly included in European legislation. He says: 'One of the forms that it is possible to assign to water services in Italy is the PPP. In our opinion it should be for the local community to choose which of the three existing forms it wants. It would be a mistake if the country decided to choose just one form, whether this is concession or in-house direct management by the municipality, and this is the reason why we are against this Italian law. We believe and hope that it is possible for the EC to give some advice to the Italian government.'

Of course, with the government currently in such flux, it is likely that thoughts about potential renationalisation will have been put on the back burner, though this will not make it any easier to end the moratorium on assigning water services to a particular form of operation. Mr Drusiani notes: 'In Italy, work in parliament is not particularly fast. For example, if we have a change in government of course this will stop the law to examine renationalisation. We hope that it is possible for the EC to give their opinion about this law very quickly.'

It would not be the first time that the EC has made a direct intervention in the workings of the Italian government. Back in 2002, when legislation was passed in the Italian parliament to change the shape of water provision to allow just one form of operation, concessions, the EC stepped in and a two year discussion ensued that resulted in the current three forms. Mr Drusiani explains: 'That is the reason why I believe the EC won't remain still.' It is ironic that, given the water industry's general hope that Europe will understand the local nature of its operations and its overall lack of enthusiasm for top-down interference from Brussels, that the EC should be seen in this instance to be the one real hope of avoiding an unwanted outcome.

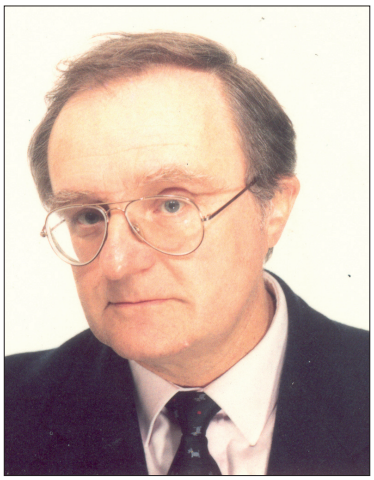
However, the impasse is not affecting the water industry as much as might be feared, Mr Drusiani explains. 'From a practical point of view there is not at the moment any evidence of a sudden effect because, if you examine the last tenders organised in 2005 to 2006 there very few participants asking to be called to tender, because of the condition of tariffs in Italy.' The evidence shows that tariffs in Italy are among the lowest in Europe and for this reason there is little attraction for investors in having a presence in Italy. In the last tenders prior to the moratorium there were either no contenders or just one or two, at the very most.

Looking at this from a positive point of view it means the moratorium has had no significant effect on the market and has not caused any particular inconvenience. Mr Drusiani says: 'At this moment we are managing to invest money, but of course we have to take a long range view and this law and the stopping of assignments is a bad affair – keeping up with the Water Framework Directive targets will of course not be possible if there is no clear situation on institutional reform. While this situation continues to exist, communities can't invest in infrastructure to comply with the WFD.'

The situation is particularly difficult because this water services reform is only one of several attempts in the recent past, such as the 1994 Galli law and the three-option reform in 2002, which have tried to solve the complex and labyrinthine problems of the Italian water sector. Mr Drusiani adds: 'Before there was this opportunity for the EC to intervene in Italian legislation we had another reform in 2006 with the Berlusconi government, when he changed the law on the environment, solid waste and water, and the last reform just recently to stop assignments of water systems.

The industry's fate is inextricably linked to the fate of the government – whether the current coalition manages to remain in power, or whether an election would see a new grouping of some of Italy's many tiny parties in government, possibly led by Silvio Berlusconi, who would undoubtedly be more in favour of private participation. As it stands, it is not clear that all of the current coalition agree with their extreme-left partner's push to renationalise water.

Mr Drusiani is hoping that the other parties feel able to intervene. 'We are against this law wholeheartedly. At the moment we only have a situation where assignment has been stopped and at the moment this is not creating any problems. Of course, the maximum danger will be if parliament approves the renationalisation law, but as it is only supported by the extreme left I hope is not possible to gain enough votes to have this Soviet law approved.' At the moment, with parliament in such a state of indecision, any decision at all on the subject seems very unlikely. ●



About Federutility

From 1 June 2005 Federutility took over from Federgasacqua and Federenergia in representing local public utility service companies in the water and energy fields. The two founder federations, which were both created in 1947 to represent and guard the interests of the municipal companies (which are still in the majority today) decided to merge as a single, coherent entity to give clarity to the complex groupings and alliances that have for a long time characterised the utility field in Italy.

The federation represents over 550 Italian utility enterprises and around 45,000 staff within the associated companies. The members of Federutility currently supply water to around 75% of Italy's population, distribute gas to more than 35% of its inhabitants, and electricity to some 20% of the population.

Electricity, gas and water are the new federation's main fields of representation, but extension to other utility areas (such as telecommunications) and to organisations in other countries within the European Union is anticipated. Federutility is the intermediary with key Italian institutions, with which it collaborates as required over bills going through parliament and on provision of water and power.

Federutility is an active member of numerous technical and scientific associations, as well as EUREAU (the European association of water services managers), IWA, CEDEC (the European confederation of energy distributors), and UIG (the International Gas Union).

Getting the voice of the consumer heard

Water consumer views in England and Wales are championed by an independent body, the Consumer Council for Water. **LIS STEDMAN** spoke to its chief executive, **TONY SMITH**, as the next review of prices and investment gets underway.

The independent Consumer Council for Water (CCWater) was formed following the Water Act 2003. Its task was to take over from the original customer protection body, WaterVoice, which was the customer representation arm of the economic regulator, Ofwat. Set up in 2005, the aim was to provide a stronger voice for water and sewerage consumers in England and Wales.

The extra separation introduced between CCWater and Ofwat is valuable in a number of ways and, after criticism of Ofwat by the House of Lords in its report on regulators and competition, its chief executive, Tony Smith, feels able to comment as part of a truly independent body.

He says: 'We share some of the concerns. In the round, regulation has done a good job since privatisation, with significant improvements, and significant developments in efficiency. I think now there needs to be more on customers – they should be more central to the process of regulation, particularly in the way customer service is incentivised.'

He adds: 'We want customers to be at the heart of the [five yearly] periodic review [of prices/investment]. The house of Lords focused on companies, and clearly they are not doing much. There needs to be a shift; there needs to be a number of changes to make it work.'

'The most important thing to us is to be able to prove the benefits to customers – what would have happened if we had not been there. The focus is very much on pushing customers to the heart of the debate.' Tony Smith

He highlights three major issues. Firstly, the plethora of procedural barriers that are built into the system. Ofwat could resolve these relatively easily, he notes. Second is the limited number of operators in the market. 'The regime is only open to 50 megalitres/year users, some 2300 in all. We think it should be dropped.' As it happens Ofwat appears to share this view.

The third is the whole issue of the pricing regime, which constrains margins so it is less active than it could be, he explains. 'We would like movement but we would like any new periodic review or changes to protect the ineligible from any disadvantages.'

He adds that he thinks that until the government is clear on where it is going, competition will be restricted to business customers and that others will need to be protected from any 'cherry picking'.

He also thinks that the size of the market is a factor in the sluggishness of its movement to date. 'The sense I get is that some of the bigger players are not interested because of the margins and scale of the number of customers. If you work in a business and you are considering new business opportunities, you do exactly that – you do a market plan looking at those two things: margins and the number of customers.

In terms of whether CCWater's role differs from that of the old Consumer Council, Mr Smith believes it does in several respects. 'It is completely independent of Ofwat – WaterVoice was operated semi-independently but its paymaster was Ofwat.'

Secondly, 'the fact that we are a national organisation with regional activities whereas WaterVoice by statute was regional. It was a loose federation nationally. We can play both nationally and regionally. It is important for a lot of issues to have a national view, but the impact is often different depending on which company you are talking to, so we have the best of both worlds.'

For instance, CCWater works on central policies with bodies like Water UK, the government and the water industry regulators, but handles other stakeholders at a regional level. 'The previous process would see regional answers being potentially different depending on what the customer wanted in a particular region.'

And yet each region does have its own issues that need to be taken into account. He notes: 'On one hand there are relative water shortages in the South East, but in the South West the biggest impact is the very high water prices after 15 years of environmental improvement.'

Another major area of distinction between the new body and WaterVoice is that CCWater's approach to dealing with policy issues is different. 'We are bringing a lot of evidence to bear – we have done some hefty customer research that has changed the way stakeholders are thinking. We have got a seat at the key tables for the Periodic Review and the Water Framework Directive, and we are represented on all of the river basin management groups. We bring the customer view to bear by being there and imparting the customer perspectives. We have been successful in getting them heavily into the debate.'

He sees this approach as a major advantage. 'WaterVoice was focused intensively on individual water companies. The fact was, it was not fully independent. I think we can represent people better now we have a respectful relationship.' He stresses that the relationship with Ofwat 'is not cosy at all' but that the new body has managed to retain the contacts enjoyed by the old one while developing a structured relationship with government, the Drinking Water Inspectorate (DWI) and Environment Agency (EA) and gaining a lot of new influence.

'The most important thing to us is to be able to prove the benefits to customers – what would have happened if we had not been there. The focus is very much on pushing customers to the heart of the debate.'

This is true of the discussions about competition and incentivising customer service as well as other areas of concern. 'We see ourselves as shining a bright light on the industry and how it is regulated, the good as well as the bad. If things are working then we are happy to say this is good, and equally when things are going wrong we will shine a bright light – we will compare [the companies] nationally by bringing together the data.'

It is important to CCWater to be able to prove to customers that it has achieved for them things that would not have happened had it not been there to champion their cause. 'In the last 12 months we have pressed for customers to be delivered more benefits because of the relatively benign pricing regime. In the last year, Anglian Water, Yorkshire Water and Northumbrian Water have delivered – they have gone beyond the regulatory deal and provided more benefits to customers.'

At the other end of the scale, on an individual level the organisation has managed to resolve a complaint from a pensioner who had been overcharged for a number of years, and who has now had a refund and compensation. The pensioner wrote to say that they would have given up the battle because it was making them ill, until they found CCWater.

This is a nice illustration of the fact that CCWater is still in the business of responding to individual complaints, as its predecessor body was. 'We want to carry on doing this and in addition we want to develop the approach of working with stakeholders regionally to see how needs differ depending on the area that we are working in.'

It is still early days in the work to prepare for the next periodic review – PR 09 – but CCWater will be working with stakeholders in every region and individual companies to establish water customers want. This has to be balanced against what companies believe needs to be done. 'I think it is a valuable way of doing things in this monopoly business,' notes Mr Smith. CCWater is happy to work with the companies and regulators on their business plans in this way.

He believes that in England and Wales at the moment customers 'are relatively happy' with the service they receive but are not very happy on the issue of trust. 'They see a monopoly industry, they have seen higher prices but do not necessarily have any clear idea why. They see reports of higher profits, leakage and other factors. We see it as very important for PR 09 and beyond that customers get a very clear understanding of what they are paying for and have a regulatory process that reflects their priorities.'

Mr Smith warns: 'The danger is that if there is a perception that the customer is still paying more and getting less there will be a backlash.' When something goes wrong, he points out, the reaction can be very strong, as it was during last year's drought when customers felt they were paying for a 100% service and were not getting it. 'It doesn't do the industry any favours,' he notes.

Mr Smith concludes: 'We must ensure that customer priorities are delivered well and for the minimum price, and that customers understand what is being delivered for them. We are happy to play our part as long as the customer view is central to the process.' ●

CCWater's stated priorities

Value for money – a fair, affordable price and charging system
Right first time – problems sorted out quickly without hassle
Water on tap – a safe, secure, reliable supply of water used wisely
Cleaning up – responsible removal of sewage, preventing sewer flooding and reduction in persistent smells from sewage treatment works
Speaking up for water consumers – achieving real improvements for consumers

CCWater facts and figures

So far the organisation has received around 27,000 contacts from customers, and has seen an 11% increase in the number of complaints compared with the previous year under WaterVoice. The watchdog's service cost each bill payer just 23p for 2006-07.

Of the 6274 complaints received, 66% were satisfied with CCWater's speed of service, 52% were satisfied with the quality of service and 46% were happy with the outcome of their complaint.

Substantial publicity was also garnered for consumer concerns, with 200 mentions in newspapers, on the radio and on television in July 2006 alone.

The franchising concept for water and sanitation in developing countries – a Peruvian case study

How to achieve water and sanitation provision in developing countries is a complex and problematic issue. **JÖRG GMEINBAUER** and **KARL-ULRICH RUDOLPH** look at the case of Peru, where their assessment shows franchising could be used to expand service provision.

Whereas European PSP (private sector participation) experiences are legion and the old continent can look back on decades of water sector management, the franchising concept, as developed by Kariuki and Schwartz (2005), Van Ginneken et al (2004) and Rudolph and Harbach (2006), has so far been banished to theoretical existence.

The Institute for Environmental Engineering and Management is therefore currently implementing a first pilot project in South Africa, which will give first empirical evidence about the advantages and shortcomings of the model and enable future concepts for other emerging markets to be built (www.uniwhutm.de/html/en/preise.html).

This article focuses on the Peruvian water sector, as a candidate for a prospective next step in the application of the franchising concept. Peru's water reserves are abundant, but 95% of the population live in areas where water is expensive and scarce. Peru is divided longitudinally by the Andes and snowmelt flows towards the Atlantic ocean, turning the Amazon region into a swamp and leaving the Pacific coast, where most of Peru's inhabitants live, a desert-like, arid strip of land. Around 57% of the coastal farmland has irrigation systems, with the rest relying on scarce rainfall of just 48mm per year (Lama 2002: 1).

Water supply and sanitation services in Peru are currently provided by 49 EPs (Empresas Prestadoras, among them Sedapal, which provides services for 29% of Peru's population), 490 municipality departments and around 11,800 community organisations, called the Administrative Boards of Sanitation Services (Juntas Administradoras de Servicios de Saneamiento (JASS)) (SUNASS 2006: 1).

At a national level, overall responsibility for the water sector (the *ente rector*) lies with the Ministry of Housing, Construction and Sanitation (MVCS), mainly exercised through its vice ministry of construction and sanitation and the National Directorate of Sanitation. Their mandate includes overall sector policy-making, investment policies and the assignation of resources. At a regional level, the MVCS is represented by the regional Directorates of housing, construction and sanitation.

The *ente regulador*, that is, the regulatory agency for the sector, is the National Superintendency of Sanitation Services (SUNASS), whose responsibilities embrace supervision, regulation, standardisation, oversight, application of sanctions, and resolution of conflicts and consumer complaints in the water sector. SUNASS is financed by 1% of the total sales volume of the Peruvian EPs and is a decentralised body, incorporated under public law. It is granted administrative, functional, technical, economic and financial autonomy (ibid)

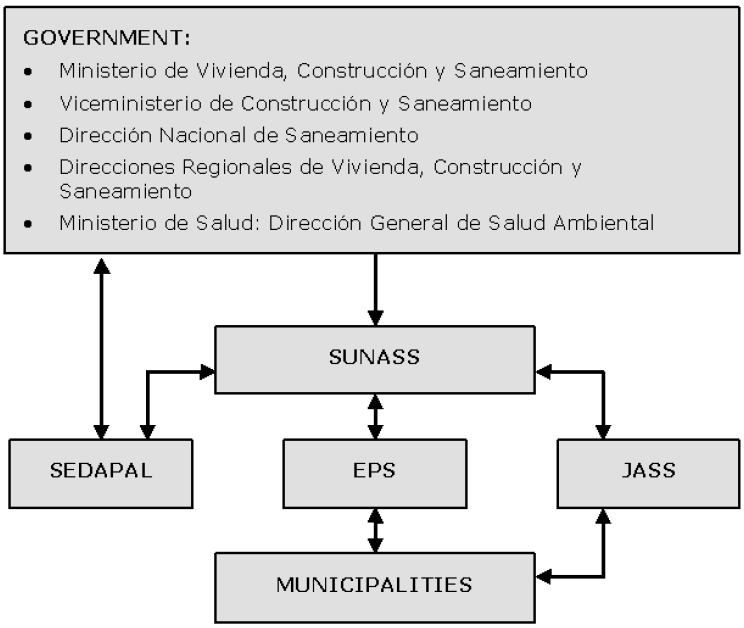


Figure 1 Institutional framework in Peru.

The urban water sector

The EPs, as the main urban water service providers, provide services to 89.6% of the urban population, half of whom are served by Sedapal to Lima and the province of Callao. The remainder of the population are supplied directly by municipality departments or buy water from mobile water vendors. Based on the number of connections, EPs are categorised as small, medium or large. Apart from Sedapal, which is under central government control, and Tumbes, which is currently operating a concession contract, all of the other EPs are municipality-owned and operated enterprises (ibid).

Sedapal accounts for 43% of the total 2.6 million potable water connections, followed by large EPs with 34%, medium EPs with 19% and small EPs with 4%. Potable water coverage is on average 84%. Forty six percent of the 2.3 million sewerage connections in the same areas are Sedapal's responsibility, 34% are administered by large EPs, 17% by medium EPs and 3% by small EPs.

Average service coverage is 75.3%, ranging from 92.9% in Tacna to 0.02% (!) in Pasco. Service continuity is on average 18.1 hours a day, ranging from one hour a day in Virgen del Guadalupe del Sur to 24 hours a day in Amazonas. Although this figure is still comparatively low, there have been

substantial improvements in this field over the past ten years, which have increased the figure from just 12.9 hours a day in 1998. Unaccounted-for water is 43.9% of the total. Although wastewater treatment coverage has doubled since 1997, just 24% of the collected wastewater is given any kind of treatment (SUNASS 2006: 3-12).

Independent potable water providers (PIAPs), who supply water via tank trucks, private condominium networks or community small-scale networks, continue to be important players in the Latin American urban water supply sector. In Lima it is estimated that 26 to 30% of the population is served by PIAPs, and the figures for Ica and Cuzco are 10% and 30% respectively. A substantial problem is that the price per m^3 is considerably higher (in Lima \$2.40 per m^3, or eight times the tap water tariff) and hence the percentage of household income of many of the poorest families spent on water services is extremely high (Solo 2003: 11).

The rural water sector

Thirty eight percent of people living in rural settlements (those with fewer than 2000 inhabitants) do not have access to potable water services; the corresponding figure for wastewater services is 70% (Cockburn 2004: 7).

It is estimated that just 20% of investment in water infrastructure was channelled towards the rural sector during the 1990s, which resulted in a situation today where rural parts of Peru lag far behind in service coverage compared to the urban centres of the country (OPS 2001: 10).

In addition to the low levels of service coverage, a 2003 study of the MVCS showed that in addition the existing infrastructure does not perform at a desirable level and is even non-operational in many cases. The main reasons for this poor status are inappropriate administration and a lack of financial resources for operation, maintenance and rehabilitation.

Furthermore, most of the investment made in the 1990s was not sustainable and had limited participation from local communities. The result is that water availability is reduced to one to two hours per day, health risks are very high and the willingness to pay for this 'service' is virtually non-existent (ibid: 8-9). It is estimated that around 59% of the existing 11,800 rural water systems do not have any type of disinfection system (MVCS 2006: 40).

Responsibility for the provision of water supply and sanitation services in the rural sector is organised at the municipality level and lies with the

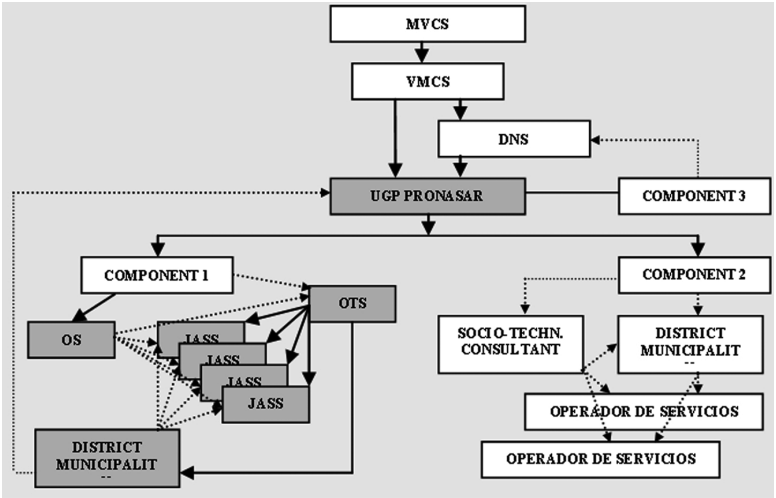


Figure 2 Pronasar institutional scheme. Adapted from Pronasar (2006a: 17).

JASS, which are also subject to SUNASS regulation. The JASS are constituted as civil associations in accordance with Peruvian civil law (PIDHDD 2006: 3-4).

The paradigm change from a supply-oriented approach to a demand-led concept at the beginning of the new millennium has given momentum to new initiatives like Pronasar. Pronasar's main objective is to finance, promote, supervise and evaluate projects, which are then contracted out to *operadores técnicos sociales* (OTS), normally NGOs (non-governmental organisations) such as CARE, CARITAS, PRISMA-AT, ECOCIUDAD, CEDEPAS, CENCA, OACA, SER, DESCO and others, and *Operadores Supervisores* (OS), normally NGOs such as SER or PRISMA-AT, and engineering consultants. Finance comes from the World Bank, the Canadian government and the Peruvian central government (Cockburn 2004: 15-16).

Status of private sector participation in Peru

Peru's overall privatisation strategy was launched in 1991 as part of a strong global PSP momentum during the 1990s. By the end of the first half of the decade, the Fujimori administration had already divested most of the large state-owned telecommunications and electricity companies. From 1998 onwards, concessions gained popularity and a multitude of contracts was signed in the transport sector, particularly for railroads, ports, highways and the Lima airport. The Peruvian PSP programme is considered to be 'one of the best examples in the region' (World Bank 2006: 11), both in terms of institution building and attracting and mobilising private capital (ibid).

Today enthusiasm for private participation in infrastructure has cooled considerably in Peru and public perceptions of privatisation have deteriorated significantly across Latin America. Two recent World Bank studies confirm that Peruvians generally view PSP negatively, associating it with increasing tariffs and worker redundancies (ibid: 20).

A positive example is the Rio Chillon build-operate-transfer (BOT) project, which is considered a real milestone in Latin American water PSP (ProjectFinance 2002: 36).

Outlook for traditional water PSP development in Peru

Full transfer of ownership, that is, divesture, does not seem to be a likely option for Peru for the near future. The UK system is hardly transferable, and the attempts of the Fujimori administration in the 1990s have shown the problems arising from not having a clear and credible regulatory framework. Peru's institutions are not sufficiently strong and the transfer of assets would probably not be backed by the general public and therefore would not be politically possible.

For the bigger urban areas, Peru will most likely proceed with its concession approach. The contract signed in Tumbes proves that the concept is

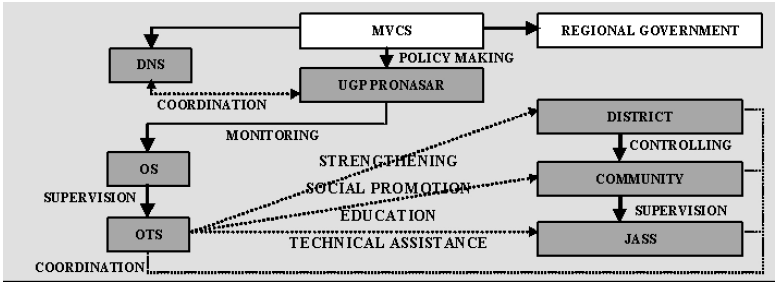


Figure 3 Pronasar execution scheme. Adapted from Pronasar (2006a: 33).

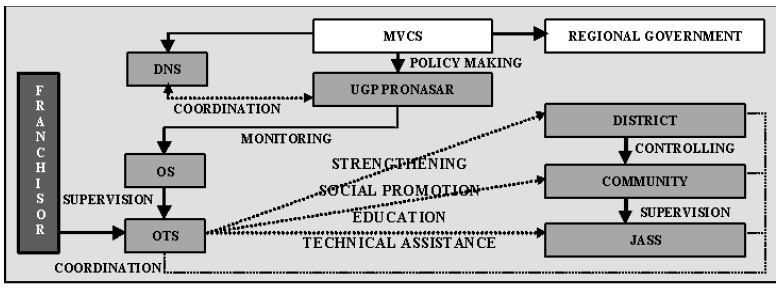


Figure 4 Franchising in Peru – Proposal 1.

feasible and attractive to investors. The integration of partial donor finance shows a possible way to reach cost-recovery tariffs without excluding the very poor.

As in Tumbes there will probably be increasing interest from companies from within the continent, which will also solve to a certain extent the problems of hard currency finance and public resistance.

The Rio Chillon project has shown the potential attractiveness of BOX models (build, operate, etcetera…). Being an entirely locally-financed project it overcomes hard currency financing problems and proves the maturity of local capital markets. Following this success, BOX could be applied to a series of treatment plants to be constructed in Peru, but will, however, be unable to contribute to the urgently-needed improvement of the country's water networks.

Increased stakeholder involvement to balance the interests of the public and private sector could be reached by implementing the cooperation model as practised in several municipalities in Eastern Germany. Although there is no current political move towards this concept, it could be a way to raise public acceptance of PSP and has been proposed for the cities of Chiclayo and Pisco (Rudolph 2000: 7, 18).

DBOs (design, build, operate schemes) are not on the political agenda yet, but could also be an interesting option for the construction of new treatment plants, fostering holistic solutions. O&M or service contracts are used in a number of cases.

Potential for applying the franchising concept

Peru suffers from a substantial inequality between the service quality in its urban centres and that found in rural areas. This capacity gap could be closed with the help of the private sector.

However, public resistance to PSP is generally higher outside large cities and private water companies avoid these markets, since the associated risks are considerably higher and returns are inadequate because of the small population density.

The franchising concept promises to be a feasible solution for guaranteeing sustainable operation and maintenance on a small-scale service-provision basis under these conditions. Such services could range from meter reading to billing and collection or even to taking over specific operational and maintenance tasks.

The potential franchisees are recruited from local service providers such as plumbers, mechanics, electricians and other craftsmen by an experienced private water service provider, the franchisor. The franchisor provides regular training and supervision and the franchisees operate and maintain the community water infrastructure against payment of a fee by the public water authorities. The franchisor's remuneration is a defined percentage of the franchisees' turnover. For the customer, the procedure remains in principle the same as before: they continue to pay the bills issued by the water authority.

In Peru the obvious thing to do would be to try to integrate the franchising concept into the Pronasar system. Two types of non-public bodies are currently involved in its execution: the *operadores supervisores* (OS), who work on both a for-profit and a not-for-profit basis, and the *operadores técnicos sociales* (OTS), who always operate not-for-profit. There are potentially two possible ways to implement franchising within this framework.

One way would be to enhance the OTS franchisees' O&M know-how and thus indirectly improve operation and maintenance within the communities. The question, however, is, whether the OTSs, which are predominantly NGOs and traditionally anti-PSP, would accept such a role. Capacity building within the community would be restricted, but the system would be easy and quick to implement and would not depend so much on the availability of qualified labour within the community. Since the OTSs continue to be the partners of the communities, acceptance levels should be high.

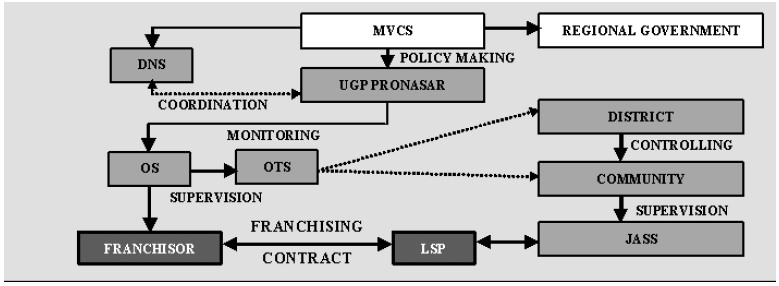


Figure 5 Franchising in Peru – Proposal 2.

The second possible approach, would appear to be more sustainable, but requires more drastic reorganisation within the Pronasar framework. Under the proposed scheme, the OTSs' activities would be reduced to issues relating to plant construction, as well as general assistance for the community and capacity building within the municipality institutions. Operation and maintenance would be guided by the franchisor, who would enter into a franchising contract with a local service provider (LSP) that recruited craftsmen. The JASS would contract out the O&M services to the local service provider, but the know-how would be provided by the franchisor company. The OS would supervise both the franchisor and the OTS.

Taking into account the fact that in rural areas, the craftsmen recruited to the local service provider would be people from the neighbourhood that were familiar to everybody, acceptance of the franchising scheme could be very high. In larger conurbations this might not necessarily be the case. The approach would not need to rely on transparent and sophisticated regulation, and would enable increased stakeholder involvement. Most importantly, it would foster local capacity building and create employment.

The key question to estimate the feasibility of this approach is whether sufficiently educated human capital is available within Peru's rural communities. One of the reasons Peru was chosen for this case study was the assumption that a country with 0.767 HDI (Human Development Index) (UNDP 2006: 284) should possess the required human resources, capable of participating in training programmes.

According to 2004 data from UNESCO, the educational attainment of Peru's adult population is as follows (numbers in brackets represent the OECD mean): 4.0% (0.0%) no schooling, 12.4% (0.0%) incomplete primary, 21.9% (12.8%) primary, 14.9% (17.0%) lower secondary, 34.3%

(44.9%) upper secondary, 6.1% (7.4%) tertiary (type B) and 6.4% (17.7%) tertiary (type A). Most of these figures have improved over the past two decades (UNESCO 2006; World Bank 2001: 17).

Although there seem to be substantial disparities between urban centres and rural areas, there is a solid secondary education stratum. The relatively weak academic sector results in a deficit of highly-qualified engineers, which is even more pronounced in rural areas. It can, however, be assumed that out of the secondary education stratum sufficient human resources can be recruited, if sustainable technological solutions are chosen that fit with local education profiles and experiences.

The second question is whether there would be interest from water companies in assuming the role of franchisor in this situation. The fundamental problem is the risk of infringement of intellectual property rights and the possibility of providing training for a potential future competitor.

However, this issue is somewhat defused at a small scale such as that proposed for rural areas. Infrastructure is in general low-tech in these conditions and the applied know-how is to a degree that of the common body of international knowledge. It is in addition highly unlikely that a local small-scale service provider would leave their usual territory to evolve to become a serious competitor for the franchisor.

A risk that is difficult to mitigate, however, is the possibility that after the first contract term expires, the franchisee might feel sufficiently competent to operate the system independently. Dependence must be maintained by continuous development of knowledge and ensuring the franchisee is always one step behind, so they have an incentive to prolong the contract.

Assuming transparent and binding legal institutions, a certain amount of legal protection (at least for a limited period) is possible. The success of this concept in other sectors has proved that these risks can be handled. The risk can be managed well, providing the franchise project consultant is equipped with the necessary specific experience and expertise in all of the relevant technical and financial issues. Franchising remains the only option to involve and develop the local water business sector, thus far.

The question remains open as to who would be legally liable for service quality and compliance with the Peruvian regulations. In principle both options, that is, the franchisor and the franchisee, are conceivable. The crucial point is that contractual regulations should be clear and detailed, and there should be a strict, transparent and clear-cut division of obligations in the franchising contract.

Having the franchisor assume the guarantees will definitely increase returns and hence, indirectly, the tariffs. With tight budgets, this solution may not be viable. On the other hand, the application of sustainable technologies at a small-scale basis also puts the franchisee in the position of assuming the liabilities. This would agree better with the general philosophy of the franchising approach in other sectors, where the franchisee is considered to be an independent entrepreneur that takes all associated risks.

Conclusion

There seems to be potential to apply the franchising concept in Peru, although some issues remain unresolved at this stage. Though the proposed approach was based on the Pronasar framework, it is of course also possible to establish a model from scratch outside this framework. The results of the pilot project in South Africa will bring immense, valuable insights as to the advantages and shortcomings of the concept, and on that basis the model can be developed further, possibly to contribute to the relevant Millennium Development Goals. ●

References

Cockburn, Julio C (2004): Agua y Saneamiento: El Caso del Perú Rural – Informe Final. Lima: ITDG.

Gregarek, Daniel et al (2007): Sustainable water management in a desert megacity on the Coast: Lima Metropolitana; New directions in urban water management, UNESCO Conference Paris, 12-14 September 2007.

Kariuki, Mukami and Schwartz, Jordan (2005): Small-scale private service providers of water supply and electricity – a review of incidence, structure, pricing and operating characteristics. Policy Research Working Paper 3727. Washington: The World Bank.

Lama, Abraham (2002): Development-Peru: water is abundant but unequally divided. In: Inter Press Service 03.09.2002.

MVCS (2006): Plan Nacional de Saneamiento 2006-2015 Agua es Vida. Lima: MVCS .

OPS (2001): Peru - Desigualdades en el Acceso, Uso y Gasto con el Agua Potable en América Latina y el Caribe. Washington: OPS.

PIDHDD (2006): Indicadores del Acceso al Agua y el Saneamiento en el Perú. Bogotá: PIDHDD

ProjectFinance (2002): Rio Chillon – Latin American water deal of the year 2001. In: ProjectFinance 227, 36.

Pronasar (2006a): Manual de Operaciones. Lima: Pronasar

Pronasar (2006b): Capacitación a Municipios. Lima: Pronasar

Rudolph, Karl-Ulrich (2000): Fallstudie: Der Wassersektor in Peru – Ergebnisse eine Kurzzeitberatung für das GTZ Sanitärprogramm PROAGUA. Arbeitspapier Nr. 2. PPP im Infrastrukturbereich. Eschborn: GTZ

Rudolph, Karl-Ulrich and Harbach, Michael (2006): Franchising operation and maintenance: achieving competition in the water market. In: Proceedings of the Fifth conference on applied infrastructure research, Sustainable European infrastructure financing under the conditions of competition, environmental concerns, and EU enlargement, Berlin, 6-7 October, 2006.

Rudolph, Karl-Ulrich (2007): Franchise – a new approach for financing and implementation of sustainable solutions for water and sanitation, In: Huber, Hans G (ed.): international symposium, Water supply and sanitation for all, page 179 ff., ISBN 13978-1-84339-514-0.

Solo, Tova M (2003): Proveedores Independientes de Agua Potable en América Latina – El otro Sector Privado en los Servicios de Abastecimiento de Agua. Washington: Banco Mundial.

SUNASS (2006): Informe Técnico del Ranking de las Empresas Prestadoras a Nivel Nacional (Al Año 2005). Lima: SUNASS.

UNDP (2006): Human development report 2006 – Beyond scarcity: power, poverty and the global water crisis. Basingstoke, etc: Palgrave McMillan.

UNESCO (2006): Eduction counts 2006. Montreal: OECD statistics.

Van Ginneken, Meike et al (2004): Can the principles of franchising be used to improve water supply and sanitation services? – a preliminary analysis. Water Supply and Sanitation Board discussion paper series no 2. Washington: The World Bank.

World Bank (2001): Peruvian education at a crossroads. Challenges and opportunities for the 21st Century. Washington: The World Bank.

World Bank (2006): Peru – rethinking private sector participation in infrastructure – towards effective public private partnerships/concessions in the provision of infrastructure services, Washington: The World Bank.

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Psycho-linguistics: a new strategy for customer communication

Customer perception of company performance is a key factor in satisfaction. **DR VALERIE BRAM** and **DR HENRY FABIAN** look at the dramatic effect the language used by companies can have on customer views of their water utilities.

How would you like to cut your regulatory complaints by 18% in six months? That's what Thames Water did by introducing psycho-linguistics, the study of how we understand and use language, into its customer communication. And for a company with 13 million customers that result makes a substantial contribution to the bottom line.

Working with gas and electricity companies over the past 16 years has revealed that in a competitive market, where prices and products are much the same, customers choose the companies that treat them best.

But water companies are still monopolies. As a result, many customers believe that suppliers in this sector have a somewhat cavalier attitude towards them, as they have no alternative but to accept the products and service being provided. This is not to say these companies are cavalier, only that some customers perceive them to be.

Attitude and perception are everything in the battle for the hearts and minds, and this is where psycho-linguistics can make a significant contribution to the reputation of a company, to its relationship with its customer and, ultimately to its performanceand profitability.

The secret lies in closing the gap between what the company promises and what customers believe it actually delivers in terms of its advertised image and brand values.

Consider a few examples of corporate speak. Welsh Water tells customers: 'We want you to feel confident that your water supply and sewerage service are well looked after. Our aim is to get things right first time, every time. For the majority of our customers this is happily the case.'

Thames says: 'We are the UK's largest water and waste water company. We are committed to providing a high quality of service to all our customers and our Customer Guarantee Scheme is constantly reviewed to ensure we continually improve the quality of the service provided.'

Northumbrian Water declares: 'Our overriding principle, in conducting our business, is to act ethically, lawfully and with integrity, honesty and fairness in all our key relationships'.

Such are corporate promises. These words pack a powerful emotional punch and no doubt do an excellent job of convincing people they mean what they say.

But corporate hype is a world away from day-to-day reality. The finely-honed communication skills in evidence here are sadly lacking in customer service and complaint teams, which is where people have the greatest contact with the organisation. Glib indifference, hollow sentiments and unconvincing arguments are usually the order of the day.

There is no point in training staff exceptionally well in the mechanics of the business – regulations, products, prices, procedures – unless they understand that the way facts and figures are expressed can damage the brand and destroy relationships.

Take an example from another sector. The former head of Barclay's Bank, Matt Barrett, told the UK Government's Select Committee that the public had to be 'stupid or desperate to use a credit card'. Were it not for the fact most card users are locked in, many people may well have deserted the bank rather than be considered cretins on the edge of financial disaster.

Mr Gerald Ratner's equally infamous remark that the decanters he sold in his jewellery stores were 'total crap', has gone down in history. That particular little faux pas cost him everything he had. £110 million ($222 million), according to his most recent estimates.

It is obvious that deep-seated attitudes and opinions are behind both sets of remarks, which are coloured by arrogance and contempt for customers in equal measure and, where they can, customers vote with their feet.

The words we use always reflect our values, attitudes and opinions. So too does our tone of voice. It takes sensitivity and insight to manage both in customer letters and telephone conversations.

This is probably a good time to deal with the whole concept of Plain English, which has been given so much attention over the past ten years. Disciples of Sir Ernest Gower – who wrote 'The Complete Plain Words', which gave rise to the Plain English Campaign – have done a good job in advocating a jargon-free style, stripped of bureaucratic or specialist phraseology.

But they should also have stressed his equally important mantra: 'Imagine your reader's feelings when he writes his letter and gauge his reaction when he receives yours…'. The emphasis here is on emotions, not just on simplicity and clarity.

This is where psycho-linguistics works its magic. Over the past 15 years, its heady mix of psychological and linguistic tactics have given the water companies we've worked for a competitive edge.

Essentially, psycho-linguistics involves the use of language to manage people's perceptions and influence their subsequent actions. And there are dozens of ways of to influence customers, from getting them to accept bad news without becoming unduly agitated, to preventing them from escalating complaints up to an ombudsman.

It may sound an esoteric subject, but it can deliver measurable results. Not only did it cut Thames Water's regulatory complaints by 18%, it also ensured 85% of Seven Trent Water's complaints were resolved first time, and reduced repeat letters from 28% to 8% in another major utility.

Being monopolies, on the whole water companies have chosen not to invest in better customer communication as their cousins in the gas and electricity have been forced to do.

But when market share, customer loyalty and corporate reputations are on the line, corporate communication comes to the fore. Our clients in fiercely competitive markets have realised that speaking and writing to customers is an art, not a chore, and where they have introduced psycho-linguistics, the results have been impressive:

- retention rates up by 55 %
- customer satisfaction increased by 46.7%
- repeat letters cut by 50%
- re-opened cases down from 18% to 8%
- compensation budget slashed by 49%.

And it's easy to achieve these dramatic improvements.

Delivering results

The first step is usually to undertake a corporate audit to reveal the size of the gap between what the strategic planners promise customers and what the operational staff actually deliver.

Shortcomings can invariably be put right with two simple solutions. The first is to re-word standard telephone responses, letters and paragraphs so they have the emotional impact intended. The second is to train customer-facing staff in psycho-linguistics, so that the know-how is owned in-house.

Changing the ubiquitous 'Sorry for the delay. Your call is important to us. You are currently eighth in the queue', or the more irritating 'We are experiencing a high level of calls at the moment…you will have to call back later' would be a good place to start.

The overt message may be well intentioned, but the sub-text implies there are insufficient staff to cope with incoming calls and, rather than employ more people, the decision-makers have decided customers can wait, or suffer the inconvenience of calling again. The level of irritation this message generates is sufficient to drown out all rational thought.

Weaknesses in corporate explanations and arguments are equally obvious when subjected to emotional, as well as intellectual, scrutiny. In fact, a selection of examples from a cross-section of water companies reveals the extent of the problem. Each says one thing and implies another.

For example: 'A job was raised on (date) and was sent to the wrong area to investigate and this is why there was a delay in getting someone to investigate the problem for which I apologise.' Administratively incompetent and slow, then.

This wordy explanation is no better: 'A week later the issue was again reported and we attended again and found that the original choke, which was caused by wipes being put down the system, was the same issue as the main sewer. The squad advised that this was probably due to them clearing the first choke (they moved the problem rather than cleared it). Technically incompetent, then.

How about attitude? 'The discolouration to your supply was due a large water main being damaged whilst our Waste Water Contractors were working on (road). We would normally try to deliver bottled water to our customers, particularly to the elderly and families with young children, but as this incident affected such a lot of properties we were unable to on this occasion.' Here, the company implies it was ultimately responsible for the problem, knew the right thing to do, but admits it was just too much effort to do it.

And finally, this company's professional expertise is called into question. 'I have reviewed the survey results completed by our service partners in January and I am very disappointed to confirm that they did not actually prove if the supply was shared or a single supply. I feel that an assumption has been made rather than a decision based on facts and as a result we should not have progressed this job without further investigations.' Poor attention to detail, working on a false premise and not knowing what the real situation is are all pretty damaging confessions.

The key issue is viewpoint. While the water companies may be looking at things objectively, there is no doubt customers will respond emotionally to these messages – and most will respond negatively.

Where is the much-vaunted customer service? Where is the evidence that companies are committed to technical excellence? None of these examples enhance the image or reputation of the companies concerned, still less deliver brand values they espouse.

While there is still time, the water industry should prepare to enhance the quality of its day-to-day customer contact, rather than relying on its position in a closed market. Change is inevitable, and embracing it is always better than being coerced into new strategies and approaches.

Besides, if psycho-linguistics can make a substantial impact to your bottom line, you have nothing to lose and everything to gain. ●

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Eureau's role in reform

Much of the focus of European-level regulation of the water sector has been on environmental and water quality issues, but attention is turning more to the structure of the sector and the role of competition. **LIS STEDMAN** spoke with **PIET JONKER** of Eureau, which represents the service providers at the heart of the debate.

In Europe, the water industry is represented at a supranational level by Eureau, a body that has considerable input and influence on the deliberations of the European Parliament.

Piet Jonker, Eureau's general manager, explains that the organisation is a federation of members that are national associations of water service providers, both within the member states of the European Union and the wider EEA (European Economic Area), which includes Norway, Iceland and Switzerland. In addition, candidate countries such as Croatia are involved as observers.

Eureau has a variety of members, some of whom are involved only with drinking water services while others focus on wastewater treatment, with the remainder representing both. Mr Jonker explains: 'There is just one association in some countries, and in others two, for instance The Netherlands has a water services association and an association of water boards, which undertake wastewater treatment. Others like Germany have an association of water utilities and DVGW, a professional association for gas and water, which is also very much involved.'

Eureau's main task is influencing, following and monitoring decision-making by the EU, he adds. As the EU's work grows, the Director Generals, such as Director General Environment, become increasingly important and Eureau's liaison work on the potable, wastewater, economic and legal aspects of the industry also takes on an added weight.

Mr Jonker notes: 'The whole issue of environmental legislation has become more and more economic in nature. The Water Framework Directive confirms the polluter pays principle, which brings a lot of discussion of the issue, and the single market has created a lot of competition rules and procurement rules. This is very important because of the number of concessions and public-private partnerships – how the rules apply is becoming more and more important.'

What this has meant for other sectors such as energy is a move towards unbundling – the separation of the industry into component elements. So far, as Mr Jonker points out, the European Commission has not moved to impose solutions for water, though he adds 'it has been discussed'. In terms of the increasing amount of legislation he adds: 'Generally speaking we are very happy with the amount of regulation the EU has issued over the last 30 years. Starting in 1982 with the first Environment Act, the industry is now one of the most regulated in the EU, and we are normally very much in favour, it is a means of progress, and improvement.'

In terms of whether this oversight should be extended to dictating the format of the industry, he warns: 'We are firm believers in subsidiarity - unlike energy, water is a local, regional business and we believe it should be adapted to local ways and organised; so you leave Italy to Italy, Spain to Spain – we see no need for an EU paradigm model. We should have a level playing field.'

> *'We are firm believers in subsidiarity - unlike energy, water is a local, regional business and we believe it should be adapted to local ways and organised…' Piet Jonker*

He sees sector unbundling, driven by the EC, as a thorny issue that drives to the heart of the debate about that body's powers. 'Since the Treaty of Amsterdam the EC thinks it has sufficient power to do so – people say it doesn't, but they think they have. It goes to the issue of whether water supply services are of general economic interest, since the Treaty of Amsterdam shared responsibilities between states and the EU.' However, he notes, the EC's claims to have powers over various sectors have been blocked by the European Parliament, and Eureau is clear that EC rule is not desirable for the water sector either. The Treaty considerably extended the powers of the EC and created a tension between the responsibilities of member states and the EC itself – the latter may in theory set aside the general principle of subsidiarity if its actions are deemed to have transnational aspects or if acting at community level produces clear benefits.

The idea, Mr Jonker explains, would be to unbundle networks from commercial activities: 'let liberalisation go its way, with the commercial part being separate – like moving from the rail companies into cargo/passenger, maintenance and track, and the same with telecoms and energy. That is a model the European Parliament has always said it does not want for the water industry. You never know, but if they think they have the authority to do so, we will oppose them.'

The situation has changed somewhat with the advent of the Treaty of Lisbon, signed last December. Protocol 9 of this treaty states that when the EC organises civil and economic interests it should take into account local differences. The Treaty claims to strengthen the role of national parliaments, creating a mechanism to monitor that the Union only acts where results can be better attained at EU level. In terms of whether this substantively changes the EC's role, Mr Jonker notes: 'Nobody knows if it means they can do this. It is a political debate. We are monitoring what is happening.'

The EC might get what it wants through the European Court of Justice, he explains. 'If the EC can't have its way it will bypass the parliament to the ECJ. As for how the legislation will be understood, the ECJ is always pro-European and the EC will then say to member states "sorry, the ECJ ruled this". It is a matter that needs monitoring.'

Problems in deciding the balance of

power may relate to a lack of definition about where various rules apply, which allows scope for interpretation. Competition is now a focus, with decisions being taken about the extent to which competition rules apply to the water industry.

Concessions underline the difficulty – many member states use this system, and the debate may change the way they operate. For instance, in Germany, the city water services are often part of the Stadtwerke, which undertakes other activities such as transport and public energy systems. 'Eureau's view is that it is for Germany to decide what the relationship with the city government should be and where the city ends and the private company starts,' Mr Jonker says.

He explains: 'If the EC tries to interfere and says that the normal private company rules of competition should apply, they will have to choose to make the enterprise entirely city-owned with government officials, or make a group operate the water supply, for instance for ten years.'

The sector's complexity creates significant problems. Parts of the industry are separate from government while other organisations are fully integrated, some are partially separate and others are completely private. That would pose real difficulties in trying to remodel the water industry. Mr Jonker says: 'Eureau does not seek any advice from the EC, it is trying force its model on the whole of Europe.'

Other issues

There are also plenty of other issues. The Water Framework Directive is very important, he notes, 'because everybody wants to bring their waters into a good condition by 2015. Everybody knows there is a lot to be done – as water service operators we would very much like it if the water was cleaner, but someone has to pay for it.' The way in which programmes to achieve this are set up and financing issues need to be decided – member states have to set project measures by 2009, so 2008 will be the year for discussions, a very critical period.

Another key issue is the revision of the Drinking Water Directive, which the EC has just started to discuss, focusing on the important issue of transposing the new WHO recommendations on using the concept of water safety plans. This means looking not just at water quality but a long list of parameters that should be monitored for and required treatment systems, using the minimum risk contamination concept from the food industry (HACCP - Hazard Analysis and Critical Control Points). This approach has meant the food industry has to ensure the risk of contamination is as small as possible from 'farm to fork'.

Mr Jonker notes that for the water industry this 'brings important questions not just about how we support performance but resource management, the risk of contamination and also what happens after delivery.' Water company responsibility is currently defined as ending at the water meter, but the new approach would require thought about the process to the tap. He notes: 'Sometimes there are risks outside the scope of utilities, and the house owner or manager of the facility should also be part of the system if we want to minimise risk at the point of consumption.'

Climate change could become a major issue, he observes, though he believes it is still not clear what the outcomes will be. 'The EC has set out a strong programme of reducing CO_2 emissions, but energy use is more problematic. In ture, if people are asking us to do more and more treatment for all installations, this will need energy. We are looking closely at what the policies will mean for individual organisations.'

The character of river flows will change, he explains. 'It will rain more but at different times, there will be less snows on mountains and there will be an impact on the water service industry, both at the intake for production and the outlet of wastewater treatment works.' There could also be water temperature problems too, he warns, 'Climate change could also mean much more attention given to river management, low flows, a focus not just on the risks but also the opportunities.'

He concludes: 'The point is that as the EU becomes stronger and stronger and we are more regulated, we have to follow the issues closely. We must put forward the views of the water service industry.'

Mr Jonker adds: 'The EU is a big organisation – there are 27 member states. One of the advantages of Eureau is that it can try to unite the water service industry, which is very important. When it comes to lobbying, Eureau members range from large companies that are quoted on stock exchanges to very small organisations serving 200 people and from every corner of the EU. They are all different – their climates, their technical conditions, but if we can unite we will have a good result.' Hopefully the EU will find itself of the same opinion as Eureau. ●

PSP in the EU water sector: lessons learnt – an empirical survey

A survey of private sector involvement in the management of water services in well established EU countries has brought together views on the current systems in place. **JÖRG GMEINBAUER** and **KARL-ULRICH RUDOLPH** review the PSP concept in relation to these countries as well as its possible role in developing Asian economies.

For many countries facing water problems, the 'old Europe' with its long history in water management is an interesting region. In the context of an EU and Asia focussed research project, the authors have focused on the experiences of the cradle of modern water service provision, and explored the long-term experiences of the sector's stakeholders. The hypothesis was that this track record of almost two centuries of intensive exposure to different models of water sector organisation should give immense insight into the functionality of the sector and enable future decision-makers to build upon the lessons learnt.

The survey used a partially-standardised written expert interview in the form of an email questionnaire with open questions. The approach was to give a basic structure, but leave the questions as open as possible in order to allow the interviewee to provide their own perspectives, ideas and priorities. The questionnaire was sent out to 247 organisations (Figure 1) from the 'old' EU with centuries of water sector history, namely Austria, France, Germany, Italy, the Netherlands, Spain and the UK, and some worldwide active institutions (such as the UN).

The stakeholder groups contacted included academic faculties, public authorities, public enterprises, private enterprises, consultants, NGOs, news media and donor organisations, and the interviewees were chosen out of the following areas: senior level management, business development or corporate strategy and some selected experts from other areas. 37 completed questionnaires were received, which equals a response rate of 15% (Figure 2).

There is a broad consensus among all interviewed experts that there is no unique best general concept, but that an approach has to be developed case by case…

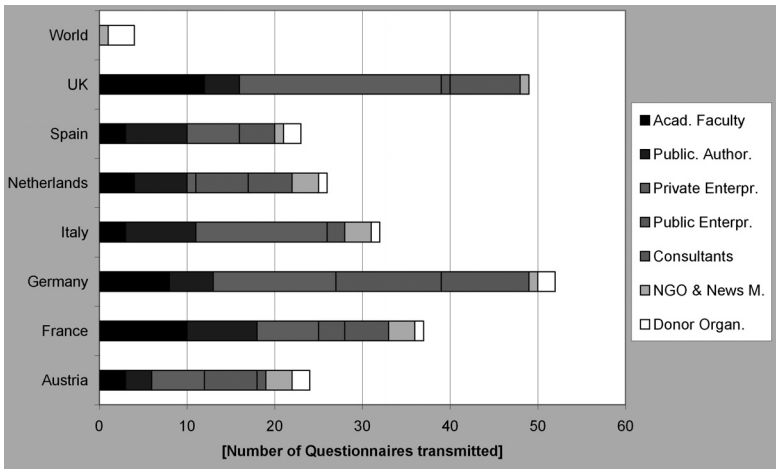

Figure 1 Number of questionnaires transmitted.

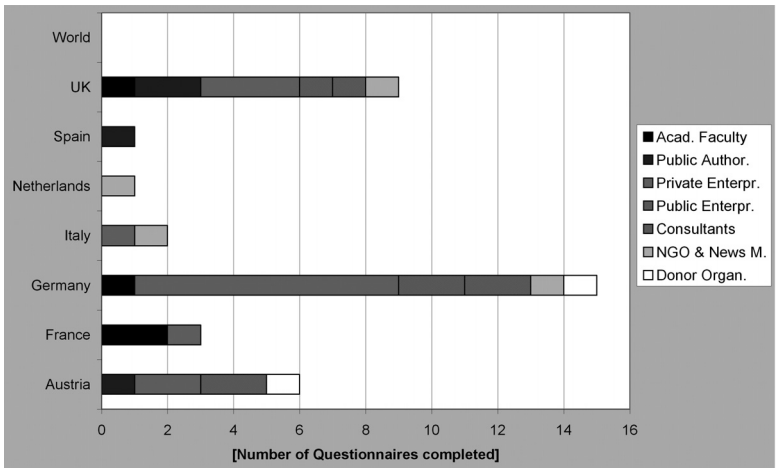

Figure 2 Number of questionnaires completed.

Lessons learnt from European experiences

The general view on efficiency comparisons between the various European water sector approaches reveals a strong bias towards the home-country concept and experiences, but the same success drivers were mentioned as the most important (Figure 3).

UK water management stands out primarily for its success in attracting private finance (at close to the interbank lending rate) and substantial investment in infrastructure. From an institutional point of view, both economic and environmental regulation has led to better accountability of the water companies and clear contracts between the public and the private sector. The key driver of success of the English model is the clear and stable regulatory approach, both for economic and environmental issues.

The French model counts basically on its long-term experience for the simple reason of having been around for the longest time. Shortcomings are mainly the problem of incomplete contracts or lack of transparency. Key success drivers are the holistic

approach, allowing for long-term management and investment in network infrastructure, and the relative independence from political changes.

Considerable value is attached to the cooperation model (PPP (public-private partnership), or joint venture) in combination with O&M (operations and maintenance) contracts, as executed in eastern Germany. The municipality has an important say in investment decisions and other issues of substantial importance. The private partner, on the other hand, has direct access to personnel, operations and technical processes. The balance of trust between all stakeholders seems to be highest under this approach. Unlike the UK (deviation) there is no typical 'German PSP (private sector participation) model', but a rich variety of different approaches (see Figure 4).

Further PSP concepts mentioned include the Italian system, which mainly uses BO(O)T (build-operate-own-transfer) and DB(F)O (design-build-finance-operate), and 'asset light' concepts. The contracting-out of service, operation and management contracts, both under private, not-for-profit private and public ownership, seems to be common and attractive. The combination of public ownership with private organisation forms is often preferred.

There is a broad consensus among all interviewed experts that there is no unique best general concept, but that an approach has to be developed case by case, after an in-depth analysis of the public requirements, taking into account the fit with local culture, economics, expectations and to some extent traditions.

The main lessons learnt and mentioned by the interviewees can be summarised as in Figure 5.

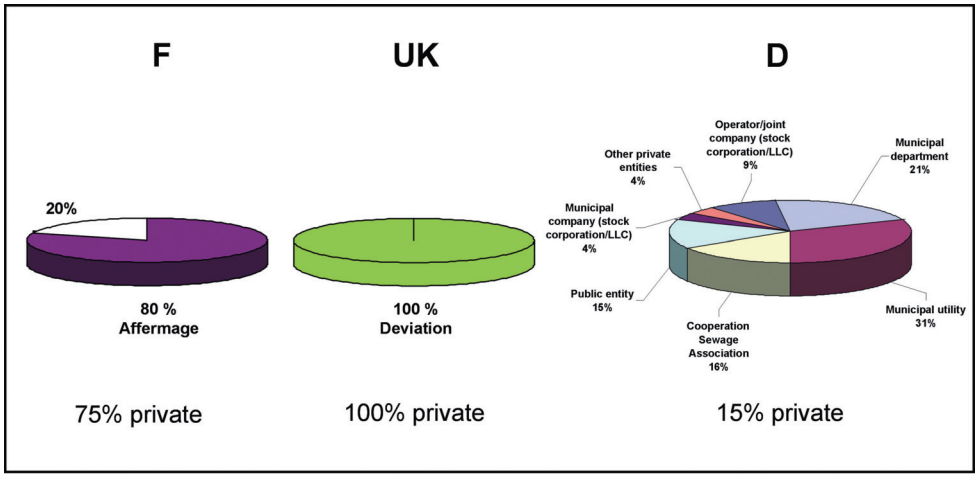

Figure 4 Distribution of wastewater organisations.

Figure 3 Main drivers for success.

- competition (as far as possible) and regulation (as far as necessary)
- a clear contractual situation stipulating the obligations and duties of the parties
- a legal and institutional framework capable of addressing policy
- a stable and attractive economic and political environment
- attractiveness to private finance (in particular the tariff strategy)
- active risk management
- efficiency incentives
- long-term strategic and financial planning
- professional O&M and holistic transfer of responsibilities to the private partner
- transparent investment policy and sustainable infrastructure investment
- investment targets have to be fixed as regards content, not only financially
- a balanced relationship between private and public partners and all stakeholders
- 'arms length' subcontracting
- management of public perception

Future outlook for developing countries

The outlook for developing countries seems complex, with the the future element of the questions in particular leaving extended room for assumptions and suppositions. On what all interviewees agree however, is a retrenchment in some of the key economies worldwide, such as Latin America, and continued or even growing interest in others, for instance China, India, the Middle East and North Africa.

Due to the risk patterns involved, large players will be at an advantage and the circle of potential bidders will be rather small (restricted competition). Optimised risk allocation between the parties involved and a search for alternative finance concepts will be on the top of the agenda.

A related issue will be the reduction of illegal connections and educating

- PSP in the water sector can be organised as sustainable, cost-efficient and environmentally efficient solution. PSP, however, is not a panacea.
- there is still enormous mistrust between the public sector and private enterprises and (often undisclosed) conflicts-of-interest among politicians and functionaries. Political discourse is more important than content orientation.
- public acceptance is of utmost importance. Models have to suit the local tradition of utility provision and be in sympathy with the prevailing political ethos.
- water utilities can in principle be efficiently managed both by public and private entities. Private companies, however, are a good way to foster investment, avoiding finance through the general taxation system and linking payment with usage.
- there has to be a clear, strong and sound regulatory framework, provided by the government and separate from service delivery and consumer interests. The economic regulator must be able to ensure best value for money and good performance.
- the agreement between public and private partners has to be very clear regarding responsibilities, framing conditions, and fee formula. The public sector is well advised to contract consultants in order to ensure a balanced contractual situation.
- the public partners have learned to identify and point out their needs and requirements, which have to be implemented in the design of the PSP.
- tariffs are still a political issue; people are reluctant to pay for water despite its low cost and undeniable benefits.
- water is a local good, so solutions have to consider local particularities.
- there has to be a clear expectation of long-term planning. The running time of the contracts must be long enough (not more than 15 years) if sustainable investment are required from the private sector.
- PSP requires optimised risk allocation to the partner that can manage them best (political risks should lie with the public client).
- the models based on the framework available in Europe (legal, environmental, urban and political) may need modification to be applied in other regions.
- NGOs mobilise against PSP, emphasising the enormous profits of private companies, consultants, banks and lawyers combined with poor service quality. Overall perception is, however, that they are not as significant opinion leaders as often assumed.
- customers and public partners always require the private partner to provide much higher service levels than they demand from their public counterparts.
- there is immense appetite in the financial markets for low risk, long-term asset backed investments.
- water resources should be managed on a catchment basis rather than based on geographical or political boundaries.

Figure 5 Main lessons learnt.

the population about water efficiency. Social tariffs for poor households (possibly subsidised) may be a way to cope with the Millennium Development Goals.

Two major problems to be tackled are corruption and legal certainty. Potentially there will be also a trend towards 'safeguarding municipal influence', as in the German-type cooperation model (joint venture or PPP), which gives more room for local governments to set their own priorities. Integration of local communities and stakeholders will be a crucial driver for success.

Although there will probably be no limit to any specific concept, another trend is towards limited executive delegation, as in management and service models, where asset ownership and operations are split, and PSP is achieved only for selected parts of the value chain, reducing risk exposure (see also Asian Journal, July/August 2007, page 4 'No more water concessions in Malaysia' or in the Huber Tech Report 98/07, page 9 'Membrane STP for Indonesia' service contract).

We will probably also see more local companies participating in PSP tenders. Partnership with locals will be of critical importance, so capacity building is playing an increasing role. A related aspect is that technological solutions will have to be sustainable to allow local staff to easily operate and maintain the infrastructure.

The failure of PSP in the past is attributed to various reasons. There is, however, a perception that real failure is rather rare. Contract termination does not necessarily mean failure, but can even prove to local governments that PSP can be reversed, if the political dogma changes. The main problems include political instability, corruption, legal uncertainty (sometimes caused by over-complex contracts) and a weak regulatory framework. Hard currency finance investing in soft currency assets with soft currency returns leads to major problems under unstable foreign exchange market conditions.

Conclusion

It can be confirmed that the experiences of the European water sector are wide-ranging and complex. Many approaches exist in parallel, and solutions are tailored to match concrete needs on a case-by-case basis. The analysis from the empirical survey shows that the undoubtedly tremendous base of European know-how can be applied to a large degree in the design of new water approaches for developing countries.

It must be made clear that the models developed in Europe are not applicable one-to-one in developing country contexts. The EU experiences, however, can be utilised for PSP in Asia, if adapted to the local cultures. Assistance in improving local sector governance, the building of sound institutions and training of locals, both in the public and the private sector, will be important. ●

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- affordability: development of a cost-recovery tariff model, which allows the integration of the very poor at an adequate service level.
- lack of water awareness and willingness to pay for water services require education programs on a broad level.
- mistrust between the public sector and private operators.
- a lack of public acceptance of PSP requires increased public relations and perception management.
- illegal connections have to be reduced.
- corruption and legal uncertainty continue to be high.
- a lack of political stability and post-contract government interference.
- local capacity building, both in local private partners and government institutions.
- creation of transparent, stable, fair and credible regulatory frameworks and institutions.
- creation of new financing concepts involving local finance.
- incentivisation of contractual arrangements to effectively align public, private and consumer interests.
- decentralisation and development of concepts for small urban and rural areas.
- implementation of sustainable technologies to be operated and maintained by local staff.

Figure 6
Priority issues in developing country water PSPs.

- increased stakeholder involvement to balance interest.
- small-scale local solutions outside major urban centres.
- local currency finance.
- cost-recovery tariffs.
- simple contracts, politically transparent, not requiring complex regulation.
- increased transfer of know-how, local capacity building and sustainable technologies.

Figure 7
Future successful concepts for developing country water PSPs.

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