

SESSION 4

The Potential Role of Utilities in Sanitation Provision for Peri-Urban Areas and Poor Target Groups

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Co-Paper: Utilities and Low Income Areas – What is Realistic?

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Table of Contents

Abstract	iv
Main Paper: The Potential Role of Utilities in Sanitation Provision for Peri-urban Areas and Poor Target Groups	1
1. Introduction	1
1.1. Definitions of sanitation and sewerage	1
1.2. Who provides water supply and sanitation services?.....	1
1.3. The Fundamental Question	2
2. Why has sanitation been accorded low priority?.....	2
2.1. Separate Responsibilities in Central Government.....	2
2.2. Utilities and Local Government.....	3
2.3. The Role of Development Partners.....	3
2.4. The Involvement of the Private Sector.....	4
2.5. Recovering Costs of Sanitation Services.....	4
2.6. Enforcement of By-laws and Regulations	5
3. Institutions and Regulations for Servicing the Poor	5
3.1. Potential Role of Utilities.....	5
3.2. Potential Role of Local Government Authorities.....	6
3.3. The Role of Regulation.....	7
4. The Role of Utilities in Financing Sanitation	7
4.1. The Role of Utilities in Cross-subsidisation of Basic Sanitation.....	8
4.2. Trust Funds Financing Utilities' Sanitation Services.....	8
5. Conclusions: How to Better Use the Potential of Utilities	10
Co-Paper: Utilities and Low Income Areas – What Service is Realistic?	12
1. Background: What is a utility?	12
2. Is sewerage a standalone service?	13
3. Water supply and sanitation utilities and on-site sanitation.....	14
4. Core Recommendations: Utility services for low income areas.....	16
Annex Main cases of sewerage services split from water utilities in developing countries...	17
References and Further Reading.....	19

Main Paper**Boxes**

Box 1	Statement Prince William of Orange
Box 2	Services for on-site sanitation – Zanzibar
Box 3	Mix of Technologies in Mwanza – Tanzania
Box 4	ONEA – Burkina Faso
Box 5	Devolution Trust Fund – Zambia
Box 6	Water Sector Trust Fund – Kenya

Co-Paper**Boxes**

Box 1	The Brazilian concept of “Saneamento Básico”
Box 2	Water and sanitation in Addis Ababa
Box 3	Social Workers for Condominial Sewerage Implementation in Natal – Brazil

Tables

Table 1	Pros and Cons of Separating Services
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Graphs

Graph 1	Sanitation services and role of utilities
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Acronyms

AAWSA	Addis Ababa Water and Sewerage Authority, Ethiopia
DTF	Devolution Trust Fund, Zambia
GTZ	Gesellschaft für Technische Zusammenarbeit
IDA	International Development Association
MDG	Millennium Development Goals
NGO	Non Governmental Organisation
NWASCO	National Water Supply and Sanitation Council, Zambia
ONEA	Office Nationale de l’Eau et de l’Assainissement, Burkina Faso
PPP	Public Private Partnership
WSB	Water Service Board, Kenya
WSP	Water Service Provider
WSTF	Water Sector Trust Fund, Kenya

Abstract

Tony Richards' paper examines why sanitation service provision by local government authorities is poor, which makes it difficult to achieve the Millennium Development Goals (MDGs). Based on his experience of water sector reforms in Eastern and Southern Africa, he provides examples of how water supply and sanitation utilities are being encouraged to support peri-urban areas and poor target groups with the provision of sanitation services. The paper highlights necessary framework conditions for extending utility services beyond sewerage provision and supporting households and communities with on-site sanitation in order to increase the sustainability of financing sanitation.

Bertrand Dardenne emphasises in the co-paper that the purpose of utilities is to provide commercial services in a field of specific public interest where economies of scale justify publicly regulated services. He reminds the difficulties of utilities to provide piped water and sewers in a commercially viable manner and argues not to disturb utilities by adding commitments on top of the core business. He doubts that there are sufficient economies of scale for on-site sanitation services, while he sees strong arguments for utilities engaging in condominial technologies and education efforts.

Regarding the recommendations, Tony Richards emphasizes the importance of utilities providing a more comprehensive and professional approach to basic sanitation provision, while the role of local government authorities could change to that of by-law enforcement of building regulations, education and public awareness. He argues that this requires financing mechanisms for the provision of basic sanitation that do not impose an unacceptable burden on a utility's water and sewerage customers. Bertrand Dardenne recommends that utilities should embrace a more holistic approach in informal settlement areas, where the separation of tasks between regulatory authority and utility is difficult. Both agree on the need for intensive public advocacy and involving beneficiaries.

Main Paper: The Potential Role of Utilities in Sanitation Provision for Peri-urban Areas and Poor Target Groups

“Clean water and sanitation are not only about hygiene and disease, they are about dignity too...[E]veryone, and that means ALL the people in the world, has the right to a healthy life and a life with dignity. In other words: everyone has the right to sanitation.” Prince William of Orange, Chair of the UN Secretary Advisory Board on Water and Sanitation

Box 1 Statement Prince William of Orange

1. Introduction

The Millennium Development Goals (MDGs) monitoring efforts show that two regions in the world have particularly low access to improved sanitation and high rates of waterborne diseases. One region comprises India and neighbouring countries, the other region is Sub-Saharan Africa. This paper has a strong focus on the emerging experiences in Sub-Saharan Africa.

1.1. Definitions of sanitation and sewerage

Before looking at the roles of utilities and other service providers in providing sanitation, we should consider the definition of the terms “sanitation” and “sewerage” and, within the context of this paper, the same definitions are used as those adopted in Tanzania^{1&2} namely:

Sanitation: *The provision of appropriate facilities and services for the collection and disposal of human excreta and waste waters.*

Sanitation works: *Sewers, drains, pipes, ducts or channels, whether open or closed, used for the drainage of human excreta or waste waters from buildings or land and on-site systems for the reception of human excreta and waste waters which do not connect to a sewer.*

Sewerage: *Human excreta disposal systems relying on water as the waste transporting medium.*

1.2. Who provides water supply and sanitation services?

Providers of water and sanitation services generally fall into one or a combination of three types of organisation:

1. **Utilities** legally established specifically to own the assets and provide the services. These are usually statutory or para-statal bodies, but exceptionally can be established under companies' legislation (e.g. Zambia).
2. **Local government authorities** accorded responsibility for the services under local government legislation.
3. **Service Providers** established under companies' legislation to provide the services under contract to either utilities or local government authorities through various arrangements such as management, lease or concession contracts. These are the normal vehicle for private sector involvement in the sector.

However, this categorisation masks some critical features:

- ∅ in some countries, utilities have been created to address the historical inadequacies of local government authorities in delivering services, and to introduce a commercial ethos;

- ∅ utilities tend to provide only water supply and sewerage services leaving other sanitation provision to local government authorities;
- ∅ utilities in developing countries may be relatively new and not yet fulfilling their mandate for providing water supply and sanitation services;
- ∅ separation of service provision responsibility in utilities from the urban planning responsibilities of local government authorities can exacerbate the service access problems in peri-urban and other low income areas;
- ∅ local government authorities tend to see water supply and sewerage revenues as a means of financing other responsibilities and it is difficult to generate revenue from sanitation; and
- ∅ service providers tend to operate on a strictly commercial basis, particularly where the private sector is involved.

1.3. The Fundamental Question

Access to safe drinking water and adequate sanitation is a human right. The question is “how can this right be satisfied in a sustainable manner and what is the potential role of water and sanitation utilities in achieving this?”

2. Why has sanitation been accorded low priority?

Linking water supply and sewerage service provision is both logical and provides a means of cost recovery of sewerage services through the water tariff and revenue collection process. However, the provision of basic sanitation and hygiene education to peri-urban and other low income areas has received little attention historically for a number of reasons, including:

- ∅ separation of policy direction, strategies, and legislative provisions at the central government level;
- ∅ separation of responsibility for sewerage and sanitation in institutional and organisational terms;
- ∅ pressure, principally from development partners, to focus on water supply and on utilities achieving cost recovery targets as a condition of investment grants and loans;
- ∅ pressure, particularly from private sector partners, not to get involved in non-commercial activities;
- ∅ difficulties in recovering costs associated with the maintenance of basic sanitation facilities;
- ∅ inadequate enforcement of by-laws and regulations by the responsible organisations, including water sector regulators; and
- ∅ insufficient public education on the links between health, hygiene and sanitation.

2.1. Separate Responsibilities in Central Government

In many countries the central government responsibility for sanitation rests with the Ministry responsible for health rather than the Ministry responsible for water, thus creating a bureaucratic separation which perpetuates itself down through the administrative structures. It also creates a need for a high degree of inter-ministerial cooperation, which is often lacking.

As a consequence, water sector policies developed by the Ministry responsible for water fail to adequately address basic sanitation issues. For example, the National Water Policy published by the Government of Tanzania³ contains no reference to the provision of basic or

on-site sanitation facilities, but, while recognising the problems of low income groups in urban and peri-urban areas, refers only to the provision of small bore and shallow sewers in these areas by utilities.

The subsequent Tanzanian National Water Sector Development Strategy does, however, give consideration to the improved provision of services to low income groups and the integration of water supply, sanitation and hygiene education. The prioritised activity schedule assigns responsibility for improving services to the utilities and local government authorities, while responsibility for these services is assigned jointly to the ministries responsible for water, health and local government, although there is currently little coordination between them.

It has been left to the Ministry of Health and Social Welfare to develop policies and a strategy for sanitation and hygiene promotion^{4&5}. This strategy is still in the drafting stage and focuses on strengthening the provision of environmental health services generally within the local and regional government administrative structure. Cooperation with water sector institutions is not mentioned.

2.2. Utilities and Local Government

The link between basic sanitation and the water sector is obvious. Sewage and leakage from pit latrines and soakaways can pollute both surface and ground water, thereby reducing the availability of safe water for domestic use, or it can be reused to irrigate agricultural land after adequate pre-treatment, thereby increasing food production.

However, sanitation tends to be handled separately both in organisational and financing terms. In many countries sanitation is considered to be the responsibility of local government authorities through its association with public health. Meanwhile, water supply and sewerage is often seen to be the responsibility of utilities established under the auspices of the Ministry responsible for water. This seems to be the case particularly where local government authorities have been weak historically and, as a result of the importance accorded to water supply service delivery, water and sewerage has come under the Ministry responsible for water.

This separation results in far less attention being paid to the provision of sanitation as the financing of sanitation has to compete with other local government services. Also, the loss of revenues by local government authorities arising from the transfer of water supply and sewerage responsibilities to utilities further reduces the scope for financing sanitation.

But, in Zambia, where water supply and sanitation is a local government responsibility, the water supply and sanitation law⁶ provides for local authorities to establish commercial utilities to provide these services in their areas. The definition of sanitation includes "the disposal, on-site or off-site, of human excreta". Thus these utilities are wholly responsible for sanitation.

2.3. The Role of Development Partners

Sanitation has not received the same amount of attention as water in the agendas of development partners. If sanitation is to improve, there is a need to move away from projects that view basic sanitation as a by-product of water projects.

Until fairly recently the focus of development partners, multi-lateral and bi-lateral, has tended to be on water, or water and sewerage, projects with little attention being paid to meeting the requirements of the urban poor, particularly in terms of sanitation. Where such efforts have been supported by development partners, this has either been as an add-on to water based project activities or through separate initiatives in support of public health activities.

Under pressure from development partners, tariff levels for water utilities in developing countries have been aimed at the achievement of full cost recovery, including depreciation on fixed assets. In turn this has fed the move to commercialising the provision of water and sewerage services through the establishment of utilities. Targets related to cost recovery and tariffs are often set as conditionalities for the release of investment funds, thus utilities have been reluctant to expand service provision into sanitation in peri-urban and other low income areas, where cost recovery is difficult.

Also, achievement of full cost recovery is still more of a dream than a reality in many countries and the inclusion of basic sanitation in the mandate of water utilities will appear to make attainment of this target even harder unless innovative financing mechanisms are put in place.

2.4. *The Involvement of the Private Sector*

Involvement of the private sector in the provision of water and sanitation services in developing countries has been promoted over the last twenty years, with varying degrees of success. However, the motivation for the private sector to become involved is the opportunity to get a positive return on the investments made. Thus expansion of the provision of services into areas that are seen as financially unattractive, such as sanitation in peri-urban or low income areas, is likely to meet with resistance.

2.5. *Recovering Costs of Sanitation Services*

Since sewerage systems, when available, rely on water as the transporting medium, they have been designed generally to serve higher income areas of urban conurbations where adequate levels of water supply are available directly into properties.

The provision of sewerage services, including conventional and small bore sewers, is closely linked to the availability of water supply with cost recovery through tariffs and billing and collection mechanisms. Therefore, at least in principle, cost recovery is easier to achieve as long as tariff levels are adequate and commensurate with efficient billing and collection mechanisms.

On the other hand, peri-urban and other areas that tend to be the main residential locations of the poor are unlikely to have adequate levels of water supply to sustain the operation of sewerage systems, as this often through off-site facilities such as standpipes or kiosks. Consequently the poor tend to be reliant on various forms of on-site sanitation, such as pit latrines, septic tanks or communal facilities. Added to this lack of a linkage is the fact that, apart from the capital cost of installing on-site sanitation systems, on-going maintenance costs are primarily related to emptying the facility either manually in the case of latrines or through the use of vacuum tankers in the case of septic tanks.

With the cost of emptying being perceived generally as the direct responsibility of the individual householder, maintenance of on-site sanitation has to compete directly with other family expenditure. Consequently, in low income households the tendency will always be to put off the emptying of sanitation facilities with the consequent risks to public and environmental health.

It may be argued that the costs of maintaining on-site sanitation facilities could be recovered through a local authority's rates or building tax system. However, in many developing countries these systems are ineffective or inefficient and peri-urban and low income areas lack adequate records, or are informal and outside the system.

In Zanzibar, where water supply and sanitation services are handled separately by the Ministry of Water and the Municipal Council respectively, most households in Stone Town and adjacent areas have septic tanks connected to the sewerage system. Formerly, the Council used to empty septic tanks according to a programme for which householders would pay a fee at the time of emptying. In order to try and overcome the intermittent but high once off cost of emptying to householders, the Council introduced a by-law setting the emptying frequency and requiring households to make a monthly payment together with their solid waste collection charge to cover this service by the Council. This places full responsibility for septic tank emptying with the Council.

Box 2 Services for on-site sanitation – Zanzibar

2.6. Enforcement of By-laws and Regulations

Provision of sewerage or on-site sanitation facilities by households is usually covered under local authority by-laws or regulations, often within the provisions of public health legislation. However, even though this may be effective on paper, enforcement of legislation in developing countries is commonly very weak and the informal nature of peri-urban and low income areas exacerbates this lack of enforcement.

3. Institutions and Regulations for Servicing the Poor

The reasons for giving priority to rapidly expanding peri-urban and poor areas are as valid for sanitation as they are for water. Nowhere else are living conditions caused by deplorable sanitation as devastating as in settlements of the urban poor (see also Session 3), or people as affected by waterborne diseases with cholera outbreaks a frequent risk. The breakdown in basic sanitation systems in Zimbabwe, and the consequent cholera outbreaks, is a recent demonstration of this.

However, sanitation is usually regarded as a private household matter and strategies to improve access concentrate on influencing decision-making at the household level, thereby focussing on issues such as social marketing, hygiene awareness campaigns, and sanitation education. These measures, as important as they are, should not be used as an excuse for avoiding large-scale sanitation projects implemented by utilities that include the construction of sanitation facilities, or for setting and demanding minimum sanitation standards through a range of technologies.

Achievement of the Millennium Development Goals (MDGs) and other national level poverty reduction targets will not be possible unless support is provided for constructing sanitation facilities for poor households (for a more detailed discussion see Session 2). A more comprehensive approach is needed. Focussing on creating demand and awareness is by all means important – but not enough. Providing financial assistance for construction in the form of subsidies to poor households is essential. So is building capacities for sustainably planning, constructing and operating on-site sanitation facilities that comprise toilet facilities, and the collection, treatment and safe disposal of human excreta, faecal sludge and domestic waste water.

3.1. Potential Role of Utilities

Water sector reforms in many countries, particularly in Africa, have created new and more effective structures within the framework of commercialisation, private sector participation and regulation. This has increased professionalism in the sector and it is important that basic sanitation also benefits from this and the improved performance of commercialised utilities, which should be given some of the responsibility for improving the sanitation situation.

In a number of cases, commercialised providers show interest in participating in basic sanitation in order to boost their image and have a stronger negotiating position when tariffs

are adjusted. Utilities can use their institutional structure for basic sanitation without substantially increasing their staff numbers, for example, by involving the local private sector in construction and including non-governmental organisations (NGOs) in soft components.

Thus, utilities have a potential role to play in improving sanitation facilities in peri-urban and other poor areas but this must be encouraged and backed by clear institutional and legal provisions, especially in respect of the potential overlapping responsibilities of utilities and local government authorities.

In Tanzania, the Mwanza Urban Water and Sewerage Authority is to implement a sanitation project, financed by KfW, using a combination of technologies appropriate to the topographical circumstances and the distance from the existing sewerage system.

The project has been developed jointly by the utility and the local government authority, and implementation will be the responsibility of the utility with extensive beneficiary consultation.

- Pour-flush toilets will be provided in hilly and rocky areas of the town with collector lines leading to a communal septic tank into which householders can empty the sludge from their pits at "Sludge Insertion Points", on the line. The communities will be responsible for the maintenance of the collector lines and communal septic tanks, while the utility will be responsible for emptying the septic tanks and assisting the community to maintain the system, if required and for a fee.
- Condominial or small-bore sewerage systems will be provided in the flatter areas of the town that are not covered by the existing conventional sewerage system.
- On-site sanitation systems will be provided at schools, markets and public health centres.

Box 3 Mix of Technologies in Mwanza – Tanzania

A new concept for utility involvement in the provision of sanitation in peri-urban areas is being developed in Tanzania where, as a component of a KfW / EU co-financed urban water supply and sanitation project, the Mbeya Urban Water and Sewerage Authority will implement water supply and sanitation facilities at schools in the utilities operational area. While the construction costs will be covered under the project financing arrangement through the utility, on-going operation and maintenance costs will be met by the schools and the local communities. The utility is to overcome the potential inertia arising from cross-sectoral responsibilities for school sanitation involving three different government ministries and linking sanitation provision to water supply service delivery. The utility sees long term benefits from providing and educating school children in water use, sanitation and hygiene as they are the future customers of the utility and will demonstrate a greater understanding of the work being carried out to provide the services.

3.2. Potential Role of Local Government Authorities

In other countries, local government authorities have retained their responsibilities for water supply and sanitation provision as part of the traditional local government role. While this has significant advantages in maintaining a close link between water supply and sanitation services, public health and urban planning, it places a greater requirement on good governance in the authorities to ensure that revenue generated from the provision of the services is channelled back into operation and maintenance of the facilities.

Failure to "ring fence" these revenues has frequently led to the revenues being used for other local government priorities and a consequent deterioration in water and sanitation infrastructure.

Also, local government authorities appear to be more susceptible than utilities to political pressures to keep tariffs to a minimum, often below cost coverage requirements. In the absence of any regulatory or performance monitoring framework, such local political pressure can seriously undermine the sustainability of water and sanitation investment.

3.3. The Role of Regulation

The advent of commercialisation of water and sanitation services over the past twenty years, combined with attempts to involve the private sector, has led to an increasing trend for the introduction of regulation of utilities and other service providers to protect consumers' interests. This has followed two basic approaches:

- ∅ the English model whereby an "independent" regulator balances the levels of service provided with the operational and fiscal efficiencies to assess and approve tariffs; and
- ∅ the French model whereby the provision of services is managed under a contract between the asset holder, e.g. a ministry, utility or local government authority, and the service provider.

Irrespective of the regulatory approach adopted, utilities and other service providers, including the private sector, could be required to meet service targets for peri-urban and other poor areas as part of their overall performance obligations. The costs of providing these services could then either be built in to negotiations for tariff increases to provide internal cross-subsidisation, or could be subsidised transparently from external sources such as government or development partner grants, or a combination of both.

Other regulatory instruments such as guidelines on sanitation, standards, and comparative reporting could also be enforced or used to provide incentives for utilities to include the provision of basic sanitation services.

"Although core regulatory tools and functions lie in the economic domain, most decisions relating to water and sanitation services also have social implications and regulation must therefore achieve a balance between competing commercial and social objectives."⁷

The sector regulator in Zambia, the National Water Supply and Sanitation Council, has issued a guideline for water supply in peri-urban areas⁸ within which it refers to the use of a "Devolution Trust Fund" to promote *inter alia* the extension of public water distribution systems and on-site sanitation in peri-urban areas by the commercial utilities. Unfortunately the envisaged guidelines for promoting a sanitary clean environment have not yet been published.

4. The Role of Utilities in Financing Sanitation

Utilities and other service providers have an interest in selling water, even to the urban poor, therefore they should also have a responsibility for ensuring that the water provided is also removed – the "producer pays principle". In Uganda, where this principle was enforced with penalties for non-compliance, both utilities and local government authorities reported an increase in their revenues.⁹

Provision of low cost sanitation is primarily a capital cost as the on-going operation and maintenance costs are usually very small, mainly the cost of emptying. Therefore, even if some kind of user fee is involved, the initial capital cost must still be sourced. Therefore the finance must either come from equity such as grants, debt in the form of loans, or cash flow from other operations, such as the water services of a utility.

Voluntary funds are only likely to play a role in financing sanitation where there is an established community and a culture that rewards giving, although the "low value" of sanitation may not encourage this. Also, peri-urban areas usually lack the social cohesion of a community as the population tends to come together through "urban drift" rather than developing internally as is the case in rural villages.

Charging a user fee basis to cover the costs of providing the service, including depreciation, has worked in the provision of shared communal sanitation facilities, such as the Sulabh Foundation in India. But, given the difficulties of collecting user charges for low-cost sanitation it is unlikely that this approach can be applied at the individual household level.

If there is inadequate willingness to pay by the poor to use sanitation services or make investments, the only way to increase use of sanitation facilities is to reduce the price by subsidies or increase demand. Aggressive public health advocacy and promotion of community enforcement of good sanitation behaviour increases demand.

User initiated sanitation is more likely to be sustainable when it is combined with other community development activities. The public health arguments are rarely strong enough to attract the necessary engagement, time and money that have to be provided by households, and consideration should be given to promotion not only on public health grounds but also for human dignity and the social norm.

4.1. The Role of Utilities in Cross-subsidisation of Basic Sanitation

Using income from water and sewerage services to cross-subsidise basic sanitation is an example of how the water and sanitation sector can successfully be linked to each other.

The National Water and Sanitation Office (ONEA) in Burkina Faso is a good example of how a commercialised water company can play a significant role in improving access to basic sanitation. After carrying out a pilot project (financed by the World Bank and later supported by GTZ), ONEA moved to the large-scale implementation of basic sanitation in the capital Ouagadougou.

Since 1999, the 45,000 rehabilitated or newly constructed sanitation facilities have been entirely financed by the sector through subsidies generated by a sanitation surcharge and contributions by users. This has increased coverage from 7% to 45% in line with the Millennium Declaration. It has also contributed to improving sanitation in many public places, such as schools, thus reducing the risk of epidemics, for example, cholera.

The role of ONEA is limited but crucial. Income from the tax d'assainissement is used to contract NGOs for social marketing/hygiene awareness campaigns and monitor and enforce standards for subsidised sanitation facilities. Consumers can apply at ONEA pay stations for subsidies to construct basic sanitation facilities on their premises. ONEA helps to train local masons, which are then licensed to construct basic sanitation facilities within a certain area. The utility also maintains an information system for basic sanitation, to target subsidies and monitor progress to achieving the MDGs.

Box 4 ONEA – Burkina Faso

The experience of Burkina Faso may have applications in other countries although a number of lessons learned in applying this approach have been reported¹⁰ in that the organisation responsible for providing basic sanitation services must be capable of managing:

- Ø revenues;
- Ø ensuring autonomous and transparent management of the sanitation surcharge;
- Ø defining performance indicators and monitoring achievement of objectives;
- Ø establishing partnerships with local authorities;
- Ø minimising the costs of providing sanitation;
- Ø ensuring maintenance of sanitation facilities; and
- Ø recognising the real cost of promoting sanitation.

4.2. Trust Funds Financing Utilities' Sanitation Services

The concept of a utility involvement in providing basic sanitation as used in Burkina Faso are now being developed into the establishment of basket funds to provide water and sanitation services in peri-urban and other low income areas. Examples are the Devolution Trust Fund (DTF) in Zambia, the Water Services Trust Fund (WSTF) in Kenya, and the proposed

National Investment Fund in Tanzania. These could play a vital role in supporting sanitation initiatives through the implementation support of utilities.

By collaborating with utilities and municipalities, funds can be channelled from governments and development partners into the large-scale implementation of basic sanitation – no longer as by-product of water projects.

Devolution Trust Fund - Zambia

The DTF in Zambia¹¹ was established to provide a basket fund for water supply and sanitation in low income urban areas with the objective of assisting commercial water utilities to extend water supply and sanitation provision to the urban poor.

The Fund was created in 2001 through a Statutory Instrument under the Water Supply and Sanitation Act, 1997 under the administration of the regulatory authority, NWASCO, as provided for in the Act. Management of the Fund is separated from the regulatory functions of NWASCO through a separate decision making process.

The purpose of the Devolution Trust Fund is to:

- facilitate funding for investment in appropriate low-cost technologies in water supply and sanitation for low-income urban areas, and
- assist with establishing sustainable management systems for these installations/facilities.

The General Fund is disbursed as a grant to a commercial utility without any obligation to reimburse the DTF in whole or in part. While only a commercial utility registered and licensed in accordance with the water legislation is eligible to apply for funding, non-licence holders such as NGOs may access the funds through a partnership with a licensed utility.

The criteria for the eligibility of projects are aimed at ensuring that the projects have a direct positive impact on the water supply and sanitation needs of the urban poor. Compliance with the objectives of the Fund is given as:

- the project area must be classified as either peri-urban or low cost and must be on traditional land or on land legalised by the local authority; and
- promoting the extension of public water distribution systems with kiosks (or a hybrid system – kiosks and individual connections) and sanitation in peri-urban and low-cost areas, including measures to upgrade a system, if it can be demonstrated that these measures are a necessary precondition to be able to improve the water supply or sanitation service provision for the urban poor.

The Fund also provides for capacity building activities aimed at strengthening the utilities in planning, implementation and management of water supply and sanitation services for the urban poor, for which technical assistance is to be made available.

Box 5 Devolution Trust Fund – Zambia

To date the fund has been used primarily for improving water supplies to the urban poor but expansion into sanitation provision is being encouraged.

Water Sector Trust Fund - Kenya

The WSTF in Kenya¹² is a State Corporation established under the Water Act, 2002, with the mandate of assist in financing the provision of water services to areas of Kenya which are without adequate water services. The Corporation is guided by a Trusts Deed to act as a basket fund for mobilizing resources and providing financial assistance towards capital investment costs of providing water service and sanitation.

The role of the Water Services Boards (WSBs) was perceived originally as being in the appraisal of the project and approval of associated engineering designs prior to submission to the WSTF, and in supervision of the project during implementation.

WSTF's mandate includes supporting capacity building activities and initiatives that aim at enabling communities to plan, implement, manage, operate and sustain water services by creating awareness and disseminating information regarding community management of water services, and encouraging their active participation in implementation and management.

Applications for projects must be initiated by communities or NGOs working closely with them, and must be managed by the communities.

Box 6 Water Sector Trust Fund – Kenya

Currently, according to the Implementation Plan for Sanitation under preparation by the Ministry of Water and Irrigation¹³, the WSTF will channel funds for household, public institutions, and public places through the WSBs and their registered Water Service Providers (WSPs). This is to ensure that sanitation services are carried out to specific standards and technologies used are sustainable. Public sanitation facilities will become assets of the WSBs but their construction and maintenance will form part of the Performance Agreements with the WSPs, who will be encouraged to use local private operators for this.

Self-financing of operation and maintenance for public facilities will be from within the funds of the WSBs and WSPs, while householders and public institutions will be required to guarantee payment for the maintenance of their facilities.

National Investment Fund - Tanzania

The establishment of this Fund is included in the newly approved Water Supply and Sanitation Act¹⁴ but its modus operandi has yet to be established.

5. Conclusions: How to Better Use the Potential of Utilities

Historically, a number of models for improving sanitation in peri-urban and other low income areas have been developed; these have tended to focus on specific solutions to specific targets. They have also been implemented within a country's institutional structures for health and local government administration.

As a result of institutional frameworks and pressures for commercialisation, water utilities have usually provided waterborne sewerage systems within their areas of responsibility and other forms of sanitation has been the responsibility of local authorities. This separation has severely constrained the much needed provision of basic sanitation to the poor and makes the Millennium Development Goals and specific national targets very difficult to achieve.

While local government authorities may continue to have a responsibility for the provision of sanitation, where utilities provide water and sanitation services, the role of local government authorities could change to that of by-law enforcement of building regulations, education and public awareness.

Utilities have the potential role of providing a more comprehensive and professional approach to basic sanitation provision. However, development banks and similar financial institutions supporting such concepts should pay attention that they are supported by:

- ∅ an institutional framework that integrates sanitation with water supply and sewerage;
- ∅ a regulatory regime that recognises sanitation priorities and encourages and compels utilities to include sanitation provision within their scope of services;
- ∅ the availability of finance targeted at the provision of basic sanitation that does not impose an unacceptable burden on a utility's water and sewerage customers;
- ∅ a mechanism for professional implementation of basic sanitation provision and ensuring that maintenance requirements are met;
- ∅ intensive public advocacy on health, hygiene and sanitation issues;
- ∅ involving the beneficiaries in a way that instils a sense of ownership and responsibility.

The establishment of the trust funds in Zambia and Kenya as part of the overall sector reform framework, and recent initiatives directly with water utilities in Tanzania, appear to meet these requirements and may provide the framework within which utilities can potentially take a leading role in improving sanitation for the poor in order to satisfy their basic human rights.

Co-Paper: Utilities and Low Income Areas – What Service is Realistic?

1. Background: What is a utility?

In the Key Note Paper, Tony Richards starts with an appropriate definition of sanitation (on-site facilities) and sewerage (off-site disposal). Accordingly, I initiate my argumentation of this co-paper with an attempt to define the rather confusing term of utility.

Within the context of this note, a **public utility** (or just a **utility**) is a “corporatized” organization that maintains the infrastructure for a public service and also provides a service using that equipment.

The existence of a specific word, “utility”, reflects the intuitive idea that the kind of organization or company supposed to be in charge of essential tradable goods or services, such as water, electricity, or sewerage, needs to be shaped in a somehow peculiar manner, due to a series of specificities:

- § The service provided is considered essential or basic. Consequently, the public authority or government ensures that the population will benefit from a minimum standard of delivery. Whoever owns the utility, the public authority that has this political commitment (national or municipal, depending on the constitution) must regulate (control, organize) the public service.
- § It is a tradable good and/or service. The population is not only a beneficiary of the public service but also a customer/purchaser/client, who pays for a “private” service as well.
- § A collective infrastructure is required. The equipment is collective because a strong economy of scale is expected. Owing to the effects of monopoly, the state may also regulate the “private service”.

In other words, a utility is a type of organization tailored to address issues in two dimensions: the typical universe of the private economy (to sell a good to customers) and the typical universe of the public economy (to manage collective assets and to meet a basic need of the population).

This is not an easy task. We all know that. There is an unavoidable contradiction between both target types that needs to be managed. A large range of institutional solutions has been experimented. These solutions can be divided into four main categories:

- § The rather pure public administration. In this case, the public “authority” manages the service itself. There is no “utility”. Economic efficiency and customer-oriented service provision usually remain the weak points.
- § State-owned capitalist company. The entity in charge of the service is “corporatized”, while the government retains ownership. The implicit contradiction between public service and business objectives is kept internally. The same structure is both “authority” and “utility”.
- § Systems based on a separation of the role of “public authority” from a separate operator, to which the day-to-day provision of the service is delegated. The contradiction is formalized through a contract and/or a “regulatory” device. The utility in charge of the operation can be owned by public, private or mixed capital.
- § Pure private organizations, which are only supervised through a regulatory scheme. Such a framework barely exists at large scale, except in the United Kingdom (England and Wales), in Chile and in some parts of the United States (New Jersey, for example).

The third category most appropriately illustrates what a “utility” is: the basic roles of the “utility” and the “authority” are formally separated. However, the border between the two

spheres can vary a lot. Depending on the institutional framework, the main assets can belong to the “authority” which leases the use, or to the “utility” in a concession type model.

Every solution has its strengths and weaknesses. Because water is a local topic, and the cultural and administrative backgrounds are very diverse, every case is different. The point we would like to stress here is that every a water utility is a thoughtful construction, tailored to accomplish a very specific task.

Compared with water supply, sanitation is a rather new concern. Sanitation was progressively integrated into the water problematic, at least through its sewerage component. In the more advanced countries, where sewage collection and wastewater treatment, alongside water supply, are supposed to be universal, the sewerage activity can amount to half the operational costs of a water supply and sanitation utility. Having been set up later, the investment effort is even higher for the time being. It is not uncommon to see places where more than 80 % of the global water supply and sanitation investment programs are dedicated to sewerage and wastewater treatment.

In less advanced countries, sewerage and wastewater treatment have to be developed while water supply coverage is still not fully achieved. Financial resources being limited, a highly political decision has to be taken to determine which target has priority, namely to extend water supply coverage to the poor suburbs or to improve the environmental situation of the city centres.

Three issues will be discussed in the following pages:

- § How to manage water and sewerage together? What is a “sewerage utility”?
- § What responsibility should water supply and sanitation utilities have regarding on-site sanitation?
- § Why is the case of low-income areas more complicated?

2. Is sewerage a standalone service?

At the international level, water and sewerage are generally managed together through the same utility, although both activities remain identified as distinct.

We argue that, in a modern- that is to say both environmentally responsible and customer oriented - conception, the sewerage service should not even be identified separately. It is simply part of the water supply commitment.

The water service business is responsible for taking the water resource from some adequate point, treating it, delivering it to the customer, collecting the residual wastewater, cleaning it and appropriately returning it to nature. Moreover, a customer-oriented conception of the service also leads to the conclusion that there is only one service. The population is not interested in paying two separate bills, in having two distinct interlocutors. A typical customer will prefer a one-stop-shopping access to a global service.

Following on from this point of view, neither should sewerage appear as a standalone service, nor should a specific sewerage tariff exist. Nevertheless, different types of reasons explain why sewerage is (still) often considered as a separate service:

- § **Weight of history.** Concerns about sewerage arose later than those about water supply. Furthermore, sewage collection started long before any attempt at wastewater treatment. In fact, sewage collection was initially linked more closely to rainwater drainage and waste management than to water. Many organizations are still the consequence of this historical background.
- § **Institutional framework.** One same entity may not be responsible for both public services. In some countries, there is a Ministry of Water and Energy that manages water, whereas a Ministry of the Environment or of Urban Development manages sanitation. In other places, water is managed at a regional or national level, while sewerage is managed at the municipal level.

§ **Financial concerns.** Financial agreements are established with institutional donors or private financing for large investment programs. Where the water activity is financially sound, whereas the sewerage services are deeply in the red, the government can prefer to maintain two distinct entities, for the water authority’s financial statements to remain satisfactory enough for loan leverage or to give guarantees of payback.

Table 1: Pros and Cons of separating the services

Pro	Con
Can fit in with specific local conditions. In dry areas, for example, water needs to be managed at a regional level, while sanitation remains a municipal issue.	Loss of scale effect, especially when the sewerage business is still very small.
Helps the leverage of financing for water, avoiding cross subsidies to face the burden of unprofitable sewerage service.	Highly detrimental to sewerage, whose separate operator will have more difficulties in closing its balance sheet and promoting investment.
Can be convenient in the context of IDA proceedings: grants are expected for sewerage, while only loans are accessible for water	Need for a complex interface to share a common billing scheme and a customer front desk
In a Public Private Partnership strategy, water operation is ready to be delegated, but sewerage is still insufficiently developed.	Duplication of some costs and need for more experienced human resources to manage the two entities

Separate operations are rather common in developed countries (Belgium, France, Germany, The Netherlands, Portugal, Spain, Hungary) and more rare in developing ones (see annex). Except some major cases, sewerage is practically everywhere else managed together with the water supply.

In Brazil, “saneamento básico” (literal translation of *basic sanitation*) means “water **and** sewerage”. Somehow, water supply is semantically embedded within the sanitation concept.¹⁵ Moreover, there is usually no specific “sewerage” tariff in Brazil. In most places, the sewerage fee is simply a percentage surcharge on the billed water fee.

Box 1: The Brazilian concept of “Saneamento Básico”

3. Water supply and sanitation utilities and on-site sanitation

Another important issue is, whether it is appropriate to attribute the utility in charge of sewerage with responsibilities regarding in-house or on-site sanitation.

As said before, a utility is a specific organization tailored to manage basic tradable services with a collective infrastructure. These companies are usually not shaped to do anything else efficiently. By itself, in-house sanitation neither is a tradable service, nor requires collective infrastructure. Although it uses purely private devices, it impacts a lot relevant collective issues such as public wealth and local environment. A strong regulation is therefore expected from the public “authority”. But it is not a service to be ruled by “utilities”.

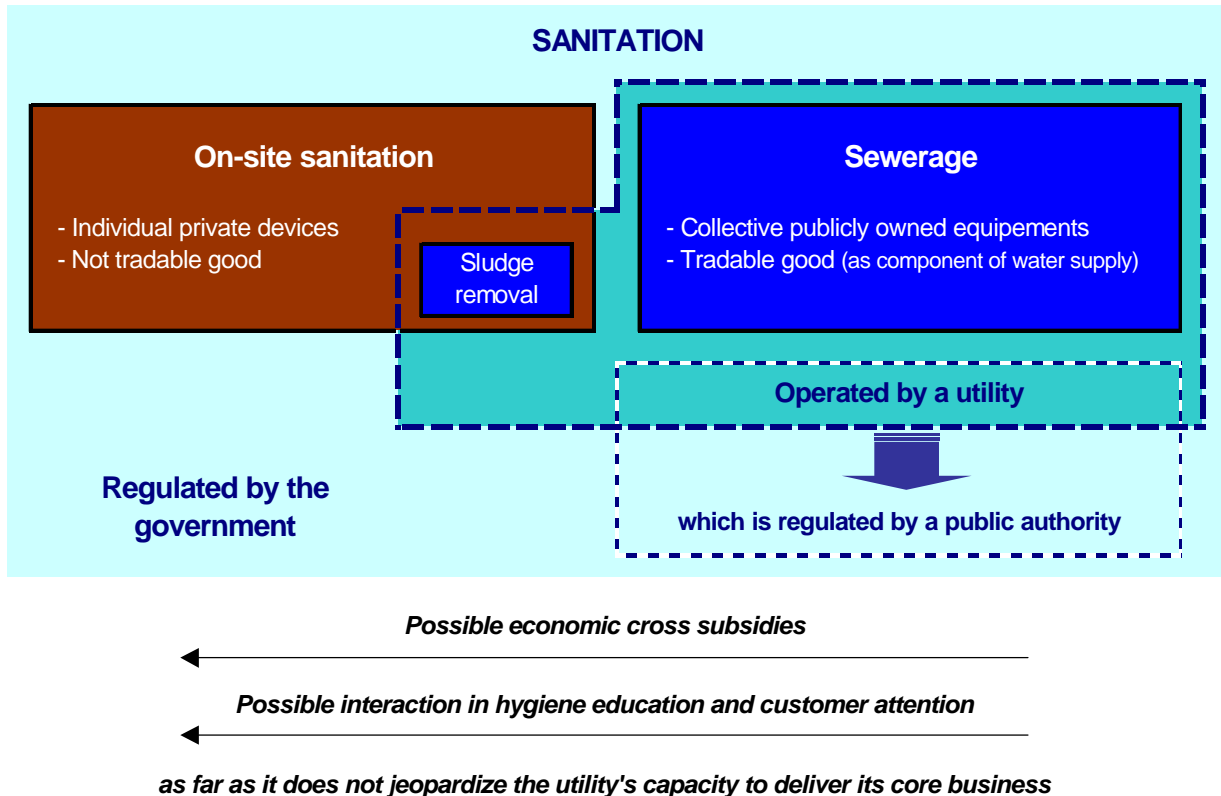
Nevertheless, some collective services related to on-site sanitation have to be performed. That is for instance the case of sludge removal from septic tanks.

In many places, the local free market is not sufficient to set up a satisfactory solution. State regulation is not sufficient, state involvement in service operation is required; this mainly results from the fact that vacuum sludge removal carried out through modern and hygienic technologies costs too much for the low-income population.

If the water supply and sanitation utility is however committed to meet the sludge disposal need of the poorer population, a department has to be created within the company; this department will inevitably record recurrent losses. It is doubtful that the poor technical

economy of scale between business units with scarce technical and commercial interfaces should compensate for the negative scattering effect of the company’s organization.

Graph 1: Sanitation services and role of utilities



Furthermore, adding non-profitable activities to a utility results in a loss of visibility of its core business’ real accountability, hence opening up a range of possible excuses to justify insufficient operational results. Only well-organized and wealthy companies are able to diversify their businesses without damaging their organization. This is not the case of many utilities.

AAWSA (Addis Ababa Water and Sewerage Authority) is a publicly owned utility in charge of the services in the Ethiopian capital. To keep AAWSA the way it is or to spin off the sanitation issues into a separate entity is today an institutional debate in Addis.

The water distribution network has an estimated length of 3,000 km, with approximately 250,000 connections. The sewerage network is only a few km long. It is estimated that the number of customers effectively connected to the sewerage network is only around 2,500. However, sewerage fees are charged in all the zones, regardless of whether or not water customers are effectively connected to a sewer. As well as the small line sewer business, AAWSA manages a sewage fleet service (sludge removal through vacuum trucks), with a fleet of 69 trucks.

In 2008, sewerage activities, mainly related to the line service (90 %), represented 14.6 % of AAWSA’s total income. The income share due to the fleet service was therefore less than 1.5 % of AAWSA’s total income. According to a 2005 tariff study, sludge disposal by vacuum trucks is charged between 15 % (for domestic households) and 40 % (for commercial or administrative customers) of the real cost.

Sewerage fleet service therefore constitutes a heavy financial burden for the utility. Moreover, the activity directly mobilizes over 300 people (approximately 15 % of AAWSA’s total staff). Sewerage strongly contributes to the complexity of the company’s organization, which the managerial authorities need to face.

Box 2: Water and Sanitation in Addis Ababa

4. Core Recommendations: Utility services for low income areas

- § *Sewerage should not be managed as a business separate to water supply. Separating water supply from sewerage through distinct bodies may be justified by tactical reasons on a short-term basis, but the long-term trend should be to definitely aggregate into a single issue what today are known distinctly as water supply and sewerage.*
- § *A “utility” is a complex organization, tailored to perform a specific kind of service. It is not recommended to disturb this organization by adding commitments on top of the core business, especially when such peripheral activities are not profitable, the utility is still weak and yields unsatisfactory results regarding its main challenging objective.*
- § *There is usually no sufficient technical economy of scale to justify the aggregation of services related to in-house sanitation together with water and sewerage operation. On the contrary, any business diversification that might damage the organizational capacity and the financial wealth of a W&S utility should be avoided, at least as long as the utility is not completely successful in the performance of its core business.*

Nevertheless, this is theory. In practical terms, the distinction between solutions for sewerage and in-house sanitation is not so clear in low-income peri-urban areas.

- § *Out-of-the-box approaches, like condominium technologies, are successfully based on a rejection of the simple distinction between “public” sewerage and “private” sanitation devices.*
- § *A strong education effort is called for, with respect to any sewerage project and to basic sanitation, as well as to water supply through standpipes. There is at least a certain level of economy of scale in the necessary field of social work.*
- § *As a matter of fact, sanitation is widely unregulated in informal settlement areas. In the conventional scheme, the authority defines the rules and the objectives of the public service; the utility applies these rules. The utility is not supposed to go beyond its contractual scope. Nevertheless, in low-income areas, these rules cannot be put into practice. The normal separation of tasks between the authority and the utility is not applicable. Rules have to be drafted in the field, in accordance with the hands-on service operation. The utility needs more freedom to go out of the box, to adapt its general commitment to the real local situation, and to embrace the sanitation issue as a whole, if it is to help develop water and sewerage programs.*

In the mid 80s, I managed the implementation program of condominium sewerage in a large part of the city of Natal (Northeast Brazil) for the state-owned regional utility. Our project-working team consisted of 36 people: only 6 of these were related to hydraulics engineering (engineers, draftsmen, topographers), while 30 were social workers (including a street theatre company). Although very far from a conventional sewerage project team, our work has been very successful.

Box 3 Social Workers for Condominial Sewerage Implementation in Natal – Brazil

Annex

Main cases of sewerage services split from water utilities in developing countries

In Latin America and the Caribbean, the main example is Montevideo.

- § The state-owned national utility, OSE, provides water and sewer services to all of Uruguay, with the exception of the capital (one third of the Uruguayan population), in which the municipality provides sewerage services and OSE only provides water services.¹⁶
- § There is no institutional responsibility for sanitation in Haiti, since the mandates of CAMEP (Water for Port au Prince) and SNEP (water for the rest of the country) currently do not include sanitation.

In Asia, China is a specific case.

- § In China, water and wastewater services are usually provided by two distinct municipally-owned companies. In fact, the services are often more deeply separated. For example in Shanghai, the Water Division of the Shanghai Urban Construction Investment Development Corporation manages a raw water company, five water distribution companies, one sewage management company, three engineering companies and two construction companies. It serves 12 million people.¹⁷
- § Sewerage is not managed by water in Hanoi either.
- § In Indonesia, a few utilities, called PD-PAL or Local Government Owned Wastewater Utilities, are exclusively dedicated to sanitation. However, in the main cities, the services are jointly provided
- § In the Philippines, most of the 5000 water service providers only deliver water. However, in the main cities, the services are jointly provided

In the Middle East and North Africa region, Tunisia represents the most explicit example of a separate operation scheme with two state-owned utilities.

- § Since 1974 in Tunisia, water and sewerage services are managed at the national level through two different state-owned companies: SONEDE (Water) and ONAS (Sewerage). Urban coverage is today 94 % and 75 %, respectively for domestic water and sewerage connections.
- § The Egyptian Holding Company for Water and Wastewater, which was created in 2004, holds 14 companies that operate water and sewer systems. The two largest cities, Cairo and Alexandria, each have separate companies in charge of water supply on the one hand and sanitary drainage on the other. Ten other cities or governorates have a joint water and sewer company as a service provider.
- § A similar case occurs in Iran. Only Teheran has a separate sewerage company. In all the other provinces, water and sanitation services are provided together.

In Sub-Saharan Africa, Senegal is the main example.

- § Responsibility for urban water supply is shared between the Senegalese national water company SONES, a holding company, and SDE, a private operating company contracted by the former, through a rather prosperous PPP scheme. The “Office National de l’Assainissement du Sénégal” (ONAS) is in charge of sanitation. Both sub-sectors are involved in different kinds of funding,
- § In some other African countries, sewerage concerns are not dealt with by water, essentially because it is still not a sizeable activity. In such cases, it can be said that sewerage is not considered a priority: it is preferable to concentrate the efforts (and the scarce financial resources) on the extension of water supply coverage. The water utility cannot afford to take on the heavy burden of sewerage, at least for the time being.

- § In Ghana, for example, urban sanitation is a local government responsibility (let's translate: no means, no priority). On the other hand, GWCL manages the water supply of the 82 main urban centres, with strong financial (loans) and operational (private management contract) support.
- § The same scheme occurs in Mozambique, where the national water authority FIPAG is forbidden by the World Bank to integrate sewerage: the multilateral organization fears that the FIPAG's fragile financial balance might be jeopardized before the payback of the loans. Sewerage consequently falls into empty municipal hands.

References and Further Reading

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- ¹¹ dtf.nwasco.org.zm
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- ¹³ Republic of Kenya, Ministry of Water and Irrigation, Implementation Plan for Sanitation (IPS) 2009 (The Water Sector Sanitation Concept – WSSC)
- ¹⁴ United Republic of Tanzania, Water Supply and Sanitation Act, 2009
- ¹⁵ It is different in Portuguese of Portugal , where « saneamento » remains restricted to sewerage and sanitation issues.
- ¹⁶ OSE serves 330 localities with 2.8 million inhabitants with water services and 152 localities with 0.5 million inhabitants with sewer services. The department of Montevideo manages sewerage for approximately 1 million inhabitants in the capital.
- ¹⁷ In larger Chinese cities, a separate raw water company may transport water from far-away sources and sell it to the municipal water company for distribution. Likewise on the wastewater side, larger cities may have several district drainage companies in charge of different parts of the city, a wastewater company in charge of the main collectors, and yet another company in charge of wastewater treatment. In some cities the various companies are under the same “parent bureau”, which may be the construction bureau or a water bureau, while in other cities the water company and the wastewater company report to different bureaux. Over the past 20 years China has engaged in what is possibly the largest program to build wastewater treatment plants in history. In 2006 there was sufficient capacity to treat 52% of municipal residential wastewater. Between 2001 and 2004, the number of cities that charged wastewater tariffs increased from 300 to 475 out of 661 cities. However, the construction of sewerage has lagged behind the construction of treatment plants. As a result, many plants are underutilized or poorly-functioning.