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Regulating Urban Water Services for the Poor: the Zambian Case Study

S. Kayaga* and R. Franceys**

* Water, Engineering & Development Centre (WEDC), Loughborough University, Leicestershire LE11 3TU, UK
(E-mail: s.m.kayaga@Lboro.ac.uk)

** Institute of Water and Environment, Cranfield University, Silsoe, Bedfordshire, MK45 4DT, UK
(E-mail: r.w.a.franceys@canfield.ac.uk)

Abstract
Economic regulation of urban water service providers is necessary to guard the equity principle and promote universal water service coverage that is an overarching target for achievement of Millennium Development Goals (MDGs). This paper reports on research carried out in Lusaka, Zambia, one of seven worldwide case-studies on how to incorporate the needs of the urban poor, through a universal service obligation, as a primary duty of regulation. The study found that NWASCO, the Zambian regulator has made commendable progress towards ‘good regulation’ principles of independence, accountability, consistency, transparency, proportionality and equitable targeting of interventions. Clearly, there good lessons for policy makers in other developing countries to learn from the way regulation structures, systems and procedures were set up in Zambia, and how they are functioning at present Recommendations have been made to improve these attributes.

Keywords
Developing Countries, Economic Regulation, Universal Service Obligation, Urban Poor, Water Services

INTRODUCTION

Background to the Problem
At the beginning of the millennium, it was estimated that 1.6 billion and 2.2 billion people, the majority of whom lived in developing countries, lacked access to safe drinking water and basic sanitation, respectively (WHO/UNICEF, 2000). According to the WHO/UNICEF 2000 Joint Monitoring Program, 27% and 18% of the population in Africa and Asia respectively live informal settlements of the cities. Unlike residents of low-density well planned parts of the cities, these urban poor people rarely get full benefits from piped water services as there are hardly any piped water networks in the informal settlements. Instead, many consumers in low-income areas rely on alternative small-scale service providers, or water vendors, who are a common sight in many developing country cities. For various reasons, the prices charged by most vendors are substantially inflated compared with the utility tariffs, sometimes with a multiplication factor of as high as twenty times (Collignon & Vezina, 2000). Apart from the impact of the doubtful water quality of services supplied by water vendors, the urban poor are doubly negatively affected by meagre quantities of water they are forced to purchase and use, on the account of the exorbitant prices.

In developed economies, the provision of water as a basic service is one of public service obligations. Public service obligations concern those services that are of public interest, which, under normal circumstances, may not be availed by the service providers if they were to only consider their commercial interests. Certain public services such as drinking water for households qualify for universal service obligations, requiring universal rather than specific coverage, as they are vital for human survival (Simmonds, 2003). The situation in most low-income countries is different. The formal mechanisms by which networked utilities in low-income countries are
normally required to meet the needs of the poor are unclear. Although there is a general awareness of the ideal of the public service obligation to achieve public health, it is generally assumed that public providers are not required to provide service to ‘illegal’, low-income settlements or peri-urban areas. If Millennium Development Goals (MDGs) for universal water service coverage are to be achieved, national governments have a responsibility to ensure that water utilities serve all customers, irrespective of social status or income levels. As the state rolls back its frontiers of service delivery and takes on a new role of overseer in the new era of market liberalisation and privatisation, regulation emerges as a potentially powerful tool to ensure adequate service provision to the poor.

Economic regulation is vital, given the fact that provision of water services is a natural public monopoly, i.e. initial colossal sums of capital funds usually sunk into infrastructure development, coupled with large economies of scale in water service provision creates a situation in which it is not attractive to operate a competing network. Incentive-based economic regulation of water and sanitation providers has proved to be a powerful tool for improving services particularly but not exclusively in the context of public private partnerships in developing countries (Nickson & Franceys, 2003). Notable examples of good practices are the Philippines, Indonesia, Argentina, Bolivia and Columbia. Although it was initially assumed that international private providers could never serve the interest of the urban poor, studies have demonstrated that some international private operators have provided differentiated services to low-income settlements, through which the urban poor have benefit significantly (Laurie & Crespo, 2002). This development has often happened as a result of the skills of the private operator rather than due to any clear leadership of government through its agent, the water regulator (Nickson & Franceys, 2003).

Regulators in developing countries have a bigger challenge, where democratic governance systems and structures are underdeveloped (Olowu, 2000). The operating environment in developing countries present higher risks of regulatory capture, in which regulatory decisions may be politically interfered with, or become more aligned with regulated companies, both of which situations could be detrimental to public interest. To strike the right balance between protecting individuals’ and companies’ rights, the UK government have endorsed five principles of ‘good regulation’: proportionality, accountability, consistency, transparency and targeting of interventions (Franceys, 2004). Another crucial factor for regulators in developing countries is independence from political interference. There are hardly any studies reported in the literature on systems and structures put in place to effectively regulate water service providers in developing countries for the benefit of all consumers, particularly the poor. This paper reports on research carried out to reduce this knowledge gap.

The Research Project
A world-wide research was carried out in 2004/05 to investigate existing regulatory systems for urban water services in developing countries. The research project entitled ‘Regulating Public and Private Partnerships for the Poor’ was sponsored by the British Department of International Development, and coordinated by Institute of Water and Environment (IWE), Cranfield University. While contributing to the overall goal of raising the welfare of the urban poor, the specific purpose of the research project was to add to the current understanding of the required technical, social, economic and legal framework that will facilitate water service regulators in developing countries to ensure early achievement of the universal service obligation as a service provider’s primary duty. Field research was carried out in Ghana, the Indian state of Andhra Pradesh, Indonesia, Jordan, the Philippines, Uganda and Zambia.

The field research investigated three main aspects: (i) the present mechanisms for requiring
achievement of universal service; (ii) provision by the direct provider utility for serving the urban poor; and (iii) customer representation in ensuring quality of service delivered. For each case study, researchers conducted interviews with the regulator(s), the service provider(s), responsible government departments, Non-Governmental Organisations involved in provision of water and sanitation services, customer forums or water board associations where they exist, and other relevant key stakeholders. This paper presents findings from the Zambia case study.

The water and sanitation sector in Zambia has been undergoing reform since 1993, with the purpose of making direct service provision a responsibility of new institutions that are independent of government, while leaving the Ministry of Local Government and Housing, the lead ministry to play the role of policy development, coordination and facilitation for the urban water and sanitation sector. Other key institutions in the urban water sector are the local authorities, who provide water services through established commercial utilities, municipal water/sanitation departments or works departments. As part of the reform process, the National Water and Sanitation Council (NWASCO) was established by the Water and Sanitation Act, 1997, and charged with the responsibility of regulating service providers in the urban water and sanitation sector.

Lusaka, the country’s capital city had a population of about 1.1 million people at the end of 2000, of which 60% lived in low-income settlements (The Government of Zambia, 2003). Officially, provision of water and sanitation services in Lusaka City is the responsibility of Lusaka Water and Sewerage Company (LWSC), a private liability company that is wholly owned by Lusaka City Council. At the time of the fieldwork, the non-revenue water in LWSC’s operational area was estimated at 58% of total production, and the utility’s service coverage was 34% of the total population in Lusaka (NWASCO, 2003). Invariably, people living in low-income settlements, locally known as peri-urban areas or compounds, are the ones most affected by the utility’s poor service levels.

Many residents of peri-urban areas a lot of time collecting water usually from shallow wells, which is often of poor bacteriological and physical-chemical quality, resulting into high incidence of water-borne diseases. The Government of Zambia developed the National Peri-urban Water and Sanitation Strategy in 2001 to improve services to the low-income settlements. In line with this national strategy, LWSC set up a peri-urban unit way back in 1995 to cater for the provision of services to 15 of Lusaka’s compounds, with an estimated total population of 540,000 people at the time of the fieldwork. The management model utilised by the peri-urban unit is tailored along community participation and/or franchising the day-to-day operations to local entrepreneurs duly approved by the community leadership.

METHODS
The specific research questions answered by the Zambia case study were:

a. What is the institutional setup of the Regulator? Does the institutional setup foster the regulator’s independence, legitimacy, accountability, consistency and transparency?

b. What is the Regulator in Zambia doing to regulate the Service Provider to deliver universal service, particularly to the urban poor?

c. What mechanisms are in place to ensure participation of the consumers in the regulatory mechanism?

d. Given the huge service gap caused by water utility’s inadequate capacity to fulfil its mandate in Lusaka, how effective is the regulator in ensuring that alternative service providers deliver adequate levels of service to the large section of the population they serve?

The methodology comprised of (i) review of policy and other organisational documents from
government, NWASCO (the regulator) and LWSC (the service provider); (ii) interviews with sixteen key informants from government, NWASCO, LWSC, civil society, community leaders, international development agencies and Non-Governmental Organisations; and (iii) focus group discussions held with selected men and women in a sample of four purposefully selected locations of peri-urban areas with an estimated total population of 142,000 people. A total of 34 men and 19 women participated in five focus group discussions. Interviews, which lasted between one to 1½ hours, were held in the offices of the key informants, and covered various topics depending on the interviewee’s roles/functions and level of involvement. A generic interview guide was compiled to fulfil the research objectives. Participants for the focus group discussions were selected with guidance from Resident Development Committees (RDCs), the local community leadership, and aimed at balancing the gender, social and economic aspects of the communities.

RESULTS AND DISCUSSION

The Institutional and Organisational Setup of NWASCO
The National Water and Sanitation Council (NWASCO), which evolved from the Water Sector Reform Support Unit, actively took on the roles and functions of an independent regulator in October 2000. According to the Water and Sanitation Act 1997, NWASCO’s major functions are to (i) advise the government on water and sanitation matters; (ii) advise local authorities on commercially viable institutional arrangements for provision of water and sanitation services; (iii) license service providers; (iv) develop guidelines for technical and financial management of utilities, set up and review tariffs; advise service providers on customer relations management; and (v) disseminate water/sanitation services related information to consumers. The legal framework for NWASCO is further strengthened by a series of statutory instruments that are continuously being appended to the Water and Sanitation Act, 1997.

The policy-making body of the regulator is the NWASCO Council, comprised of 16 members appointed by the Minister of Energy and Water Development to represent relevant government departments, civil society organisations and the public. The management functions of NWASCO are carried out by a Director assisted by other permanent members of staff. The Council appoints the Director, Deputy Director and Secretary to Council, who in turn appoint lower cadres of staff. Although NWASCO Council members are appointed by the Minister of Energy and Water Development, they are responsible to the National Parliament, minimising government interference. The operations of NWASCO are mainly funded by (i) one-off application fees paid by all service providers at the time of application and licence renewal; (ii) monthly license fees paid by all service providers; (iii) international technical assistance; and (iv) government subvention to plug the budget deficit. NWASCO’s financial independence from Government has been improving steadily. For example, NWASCO’s financial self-reliance improved from 43% in 2001 to 70% in 2003 (NWASCO, 2004).

Regulatory instruments, structures and procedures
NWASCO has developed and issued guidelines to service providers on various topics such as licensing requirements, minimum service levels, business planning, financial projections, investment planning, tariff development and adjustment, corporate governance of commercial utilities, annual organisational reporting, water supply for low-income urban areas, water quality management and human resources management strategy. At the time of the fieldwork, NWASCO had set benchmarks for minimum service levels for 11 service indicators. The main service indicators include coverage of service area, drinking water quality, service hours, billing frequency, response time to complaints, interruption of water supply and blockage of sewers, water pressure in the pipe network, sewer flooding, and quality of effluent from sewage treatment plants. When a
license has been issued, the service provider is obliged to sign a service level agreement in which it is bound to provide services with specified minimum standards. Service standards for each provider are arrived at through a negotiation process with the regulator, and depend on the baseline service levels at the time of application for a license. Service standards are adjusted periodically through a series of three-yearly service level agreements.

NWASCO utilises an audit-based regulation approach in which the primary burden of proof is placed on the service provider to demonstrate compliance to standards. Service Agreements stipulate that certain minimum information is provided to the regulator on a regular basis. Service providers are therefore required to keep registers on key aspects of technical and functional quality attributes. The service provider is obliged to provide annual progress reports on service levels achieved, compared with the service level agreements, and the proposed action plan for reaching the service levels defined in the guidelines. This data is captured into the regulator’s central database, checked for accuracy and authenticity, analysed and utilised to compile the annual urban water sector reports. Incentives given to the service provider for good performance include positive considerations during tariff reviews; and in the allocation of performance-based subsidies; as well as better corporate image portrayed in the widely publicised annual performance benchmarks. Penalties range from financial fees, suspension of a service provider, to cancellation of a license.

During the fieldwork, a cross-section of key government officials, professional organisations and the donor community were interviewed, who highly commended the progress NWASCO had so far made in building the foundation for effective regulatory rules, structures and systems. However, many participants of the focus group discussions held in the peri-urban areas did not know the existence of the regulator. A few focus group participants had learnt about NWASCO through news clips in the newspapers and electronic media. None of the focus group participants had seen the urban water sector performance reports.

Poverty-aware investment funds
The Water Supply and Sanitation Act (Act No 28 of 1997) provides for the setting up of a Devolution Trust Fund (DTF), investment funds set aside to assist utilities to extend water and sanitation services to peri-urban areas. At the time of the fieldwork, the Manager of the DTF was reporting to the Director of NWASCO, although discussion were ongoing at the time to make DTF more autonomous from the regulator. DTF started its operations in August 2003, and it had so far provided funds for (i) rehabilitation and extension of networks in peri-urban areas; (ii) construction of kiosks; software/social aspects such as community sensitisation; and (iv) organisational development of peri-urban units.

The service providers would access DTF capital on condition that they demonstrated, through a set of criteria, that the funds would be used to extend services to low-income communities in a manner that would foster community participation and promote cost recovery from the users. The funds would be disbursed in instalments, upon satisfactory accountability of previous disbursements, to a dedicated bank account. NWASCO would monitor the progress of the project through monthly progress reports submitted by the utility, inspections/site visits, and examination of the utility’s expenditure against the physical progress. At the time of fieldwork, the Government of Zambia had commissioned a study to evaluate the operations of the DTF and make recommendations for improving the criteria for allocation of the investment funds out of DTF.

The customer’s voice into the regulatory mechanism
NWASCO facilitated the formation of Lusaka Water Watch Group (LWWG) in 2001, and similar groups in other cities of Zambia, whose prime purpose was to increase customer involvement and
formalise the collective customers’ contribution to the regulatory process, hence enhancing ‘customer power’. Membership of LWWG was voluntary, but openly competitive, usually advertised in the national press. The members, who were selected on the basis that they were knowledgeable and motivated by the interest of working in the water sector, were required to serve for a two-year term. The major objectives of LWWG were (i) to improve communication between consumer and providers, and ensure customer complaints are adequately handled by the service providers; and (ii) to bring the functions of the regulator closer to the consumers and ensure a more formal consumer feedback to NWASCO.

NWASCO provided LWWG members with stationary, transport and other logistics to carry out the activities. The Public Relation Officer for NWASCO was the liaison officer between LWWG and the regulator. Members of LWWG were provided with training to enhance their interpersonal skills. To improve their effectiveness LWWG members adopted diversified channels of communication to include use of letters, telephone contacts and consumer general meetings (usually organised during market days), which resulted into an increased number of registered complaints. The LWWG members used civic members in the informal settlements as entry points to community members. The LWWG members first discussed with Resident Development Committee members (who are elected civic leaders in informal settlements) and/or market management committees prior to holding consumer meetings. Venues for consumer meetings were prioritised according to the number of complaints received from an area.

LWWG members had made a tremendous contribution to effectiveness of the consumers’ voice during the short time they had been in operation. Meetings were scheduled in different informal settlements to sensitisie the residents on their responsibilities and what minimum service level was expected from LWSC, the service provider. In these meetings representatives of the service provider participated fully, and were tasked to explain their action plans to improve service levels. Through the intervention of LWWG, a number of outstanding complaints were resolved during the meetings or thereafter. Furthermore, initial evaluation showed that consumers were increasingly receiving a better response to their complaints.

There were a few challenges facing members of LWWG. The level of funding received from NWASCO was inadequate compared to the workload, to the extent that the consumer group was unknown to most people that participated in focus groups held in the low-income settlements of Lusaka. Only a couple of focus group participants had attended a sensitisation meeting addressed by LWWG on a market day in one location. Furthermore, there was also a question of sustainability of the water watch groups, given that the members were not paid salaries. For instance, at the time of the fieldwork, three places out of the designated membership of seven people were vacant, as those volunteers had ‘moved on’ to more benefiting occupations.

Alternative service providers
The Water Works Act (1997) stipulates that LWSC is the designated service provider in the geographical area covered by the boundaries of Lusaka City Council. However, as noted earlier on, owing to inadequate capacity of LWSC, it was estimated that only 34% of residents of Lusaka City Council are adequately served with water services in the fiscal year 2001/2002 (NWASCO, 2003). In response to these poor service levels, a number of international development agencies such as Japanese International Development Agency (JICA), Ireland Aid and Care International have since the early 1990s supported community-based organisations to develop alternative water supply systems (mainly using boreholes) and reticulate it to locations in the peri-urban areas, independent of LWSC and other recognised service providers. A typical example is Care International that supports community-managed water trusts which provide water services to 13 peri-urban areas in
Zambia with a total population of about 600,000 people (Kayaga and Mwanamwambwa, 2006).

In spite of the high market share served by independent alternative service providers, they were not directly regulated by NWASCO at the time of the fieldwork. The regulator’s official position was that NGO-supported independent alternative service providers are only a stop-gap measure, and are not a viable and sustainable way of providing services to peri-urban area. According to the regulator, all areas under the geographical jurisdiction of a licensed service provider are its responsibility, which is fully held accountable for the level of services delivered to consumers in its designated service areas. Yet, the water utility has no capacity to supervise or to ensure quality assurance in the areas served by the independent alternative service providers. Subsequently, the communities served by such independent alternative providers are excluded from the benefits accruing from the regulatory regime.

CONCLUSIONS AND RECOMMENDATIONS
The Government of Zambia, through the enactment of the Water Supply and Sanitation Act No 28 of 1997 and its associated statutory instruments provided a good legal framework for development of an effective regulatory regime. The establishment of an independent National Water Supply and Sanitation Council (N WASCO) and management structures paved way for creation of valid regulatory administration, rules and structures. The findings of this research show that in the short time the regulator has been operational he has depicted remarkable progress in working towards achievement of ‘good attributes’ of regulation. The operating environment is conducive for the regulator to make independent decisions, with minimal interference from the state. The independence will be further enhanced as NWASCO becomes more financially independent.

With increased functionality, the regulator is continuously building legitimacy among key stakeholders, as could be evidenced by the high regard accorded by key government officials, professional organisations and the donor community in Zambia. To enhance this legitimacy, the regulator needs to make a strong partnership with the consumers. Adequate information about the regulatory systems should be disseminated to the consumers, particularly those living in low-income settlements, who are necessarily the biggest beneficiaries of regulation. The information should be in a form that is simple, understandable and accessible to the target audience. This process will empower the consumers and make them active partners in the regulation process. Structures and systems have been put in place to make the regulator accountable to the state and other stakeholders. However, there is still room to improve accountability to the consumers. For instance, it is important that the influence of the regulator is extended to areas served by independent alternative service providers, who provide water services to over 50% of Lusaka’s population. Such actions will not only promote the principle of accountability to the consumers, but also enhance proportionality of benefits to the urban poor. Furthermore, the rights and obligations of the consumers, the major stakeholders in the water sector, and the major beneficiaries of the regulatory regime should be made more explicit through various avenues, such as increased emphasis in the Water Act and service delivery guidelines.

The setting up of the Devolution Trust Fund, a fund that is meant to redress the imbalances of service levels in the peri-urban area, was a step in the right direction. It is important that its management is carefully worked out to ensure that the subsidies are not high-jacked, but are well targeted to benefit the most vulnerable members of society. The optimal solution is to enhance participation of representatives of consumers in the decision-making process of the Fund. To this end, the creation of the Lusaka Water Watch Group (LWWG), though still on a learning curve, was a good development. LWWG has already paved way for the customer voice to feed into the
regulatory process, and created benefits for the consumers through the reduction of the service provider’s response time to consumer complaints. Collaboration between Water Watch Groups and the elected community leaders should be improved, as a way of scaling up the activities of the Water Watch Groups in the peri-urban areas in a cost effective manner. Clearly, there good lessons for policy makers in other developing countries to learn from the way regulation structures, systems and procedures were set up in Zambia, and how they are functioning at present.

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REFERENCES