

# PROJECT INFORMATION DOCUMENT (PID) CONCEPT STAGE

Report No.: PIDC5020

<b>Project Name</b>	Lusaka Sanitation Project (P149091)
<b>Region</b>	AFRICA
<b>Country</b>	Zambia
<b>Sector(s)</b>	Sanitation (100%)
<b>Theme(s)</b>	Urban services and housing for the poor (40%), Pollution management and environmental health (30%), City-wide Infrastructure and Service Delivery (15%), Municipal finance (15%)
<b>Lending Instrument</b>	Investment Project Financing
<b>Project ID</b>	P149091
<b>Borrower(s)</b>	Ministry of Local Government and Housing
<b>Implementing Agency</b>	Lusaka Water and Sewerage Company
<b>Environmental Category</b>	B-Partial Assessment
<b>Date PID Prepared/ Updated</b>	14-May-2014
<b>Date PID Approved/ Disclosed</b>	30-Jun-2014
<b>Estimated Date of Appraisal Completion</b>	27-Feb-2015
<b>Estimated Date of Board Approval</b>	22-May-2015
<b>Concept Review Decision</b>	Track II - The review did authorize the preparation to continue

## I. Introduction and Context

### Country Context

Zambia has recently become a lower middle-income country and has a stable democratic political system. A decade of sustained economic growth – averaging 5.7% per year over the past ten years – has resulted in Zambia being among the top ten fastest growing economies in Sub-Saharan Africa, and allowed the country to attain lower-middle income status. Nominal per capita income is US \$1,200 (2011). In 2011, Zambia held national elections in which the long standing ruling party was defeated by the opposition People’s Front Party and there was a peaceful transfer of power.

However, many of the development challenges Zambia faces are similar to low-income countries. Poverty rates are stubbornly high at 68% (using Purchasing Power Parity (PPP) at US\$1.25 per day) and inequality remains high (0.52 gini coefficient). Key measures of human development are worse than many low-income countries – such as under 5 mortality per 1000 live births of 119 (compared

to low income average of 108) and life expectancy of 49 (compared to a low income average of 59). The economy remains largely undiversified and mainly dependent on copper, with economic activity mostly concentrated in the urban areas. Zambia is also lagging on a number of Millennium Development Goals (MDGs) targets, including the water and sanitation targets.

The current Government has identified poverty reduction, jobs and governance as its main priorities. As articulated in the country's Vision 2030 statement, Zambia aspires to be a middle-income country by 2030. The Government's strategy for growth and development is outlined in the Sixth National Development Plan (SDNP) (2011-2015) and focused on realizing pro-poor growth by converting mineral wealth into widely shared prosperity. However, Government policies for achieving this strategy are still evolving and implementation is lagging.

### **Sectoral and Institutional Context**

Water supply and sanitation is a core development issue for Zambia's economic growth and social development. Lack of adequate water supply and sanitation results in poor public health, poor environmental conditions and constrains investment. 60% of Zambians have access to clean drinking water supply while 49% have access to adequate sanitation as defined by UNICEF/WHO (Government figures are lower). The national long-term vision for 2030 is to reach 80% access to clean water supply by 2015 and 100% by 2030; 68% access to sanitation by 2015 and 90% by 2030; rehabilitation and reconstruction of sewage facilities in all major towns and cities; and 80% of waste collected and treated by 2030.

Lack of adequate sanitation in Zambia significantly impacts human development... Zambia loses 1.3% of GDP due to poor sanitation (WSP, 2012), primarily due to illness and premature death from the public health impacts of poor water, sanitation and hygiene. The economic burden of inadequate sanitation falls most heavily on the poor who are most likely to have inadequate sanitation facilities.

... and this is most acute in Lusaka. Lusaka is suffering from a sanitation crisis that claims lives through annual outbreaks of cholera, typhoid and dysentery and causes severe environmental pollution. 70% of Lusaka's 2 million residents live in peri-urban areas, most of which have poor sanitation. Open defecation is common, and those with on-site latrines are in poor condition. In addition, 30% of Lusaka's water supply is from groundwater abstracted within the city, and the city has an unusually high groundwater table which is prone to contamination, particularly in high-density neighborhoods without adequate sanitation, necessitating sewerage in many of these low-income communities. However, sewerage investments are expensive, and the city has been reluctant to construct sewers for which it may be difficult to recover costs.

The institutional framework for the sector is established and the water sector reforms started in the 1990s have been partially implemented. The Ministry of Energy and Water has overall responsibility for the water sector, whereas water supply and sanitation is the responsibility of the Ministry of Local Government and Housing (MLGH). The responsibility for service provision is with the Local Authorities who have established 11 municipally-owned regional Commercial Utilities to manage water services throughout the country. The utilities are regulated by the National Water and Sanitation Council (NAWASCO). The 1994 National Water Policy laid out seven reform principles reflective of international best practice. There has been significant progress on many of these reforms, such as the separation of water resources management from water supply and sanitation, the separation of regulatory and executive functions and the devolution of authorities from central to local governments. However, a second round of reforms is needed to improve the

financial viability of the utilities. Additional reforms are needed to build the capacity for sanitation services throughout the country, and in Lusaka in particular.

The Lusaka Water and Sewerage Corporation (LWSC) is responsible for water supply and sanitation in Lusaka Province. LWSC has a mandate to provide water and sanitation services to the 2.2 million urban residents of Lusaka Province, which consists of Lusaka city (2 million) and four other urban centers (Kafue, Chongwe, Luangwa and Chilanga). LWSC was formed in 1988 as a Private Limited Liability Company owned by the city councils of Lusaka (60%), Kafue (20%), Chongwe (10%) and Luangwa (10%). LWSC has 79,500 connections serving 1.7 million people.

LWSC has achieved significant results in water supply with Bank support, but has not yet focused on sanitation. As documented in the ICR for the Water Sector Performance Improvement Project (WSPIP) which closed in June 2013, LWSC has made significant improvements in the financial viability of the company, and in strengthening the institution for future investments (the operating ratio, i.e. revenue/cost, went from 80% at the start of the project to 130% at project close). However, it still faces significant challenges, such as high non-revenue water (45% compared to a desired level of less than 25%) and inefficient staffing (10 staff/1000 connections compared to a benchmark of 1-3). The Millennium Challenge Account (MCA) grant to Lusaka of US\$335 million—which was based in large part on the WSPIP design, and motivated by the performance improvements achieved under WSPIP—focuses on water supply and drainage, with little investment in sanitation. However, sanitation services have not improved at the pace of water services and have received very little support from Cooperating Partners (CPs). The increased supply of water without the corresponding improvements in sanitation created an additional public health risk.

The Water and Sanitation Program (WSP) has been piloting “condominial sewerage” through the Kalingalinga Pilot Project. “Condominial sewerage” is the application of simplified sewerage (small bore, low cost) coupled with consultations between users and agencies during planning and implementation, popularized in Brazil. WSP has been piloting the use of condominial sewerage in a high-density neighborhood of Lusaka called Kalingalinga (45,000 people). The pilot has completed phase 1 (laying of the trunk sewer) and begun connecting households.

LWSC now wishes to address the sanitation crisis to reach the targets laid out in the Sanitation Master Plan. Lusaka's sewer network of 480km covers about 30% of the city's area, and connects to 10% - 15% of Lusaka's residents. Including on-site solutions (pit latrines and septic tanks), sanitation coverage reaches about 69%; however, many of these facilities do not meet public health requirements. Significant investments and reforms are required to reach the target of 100% sanitation coverage (on-site and off-site) cited in the Sanitation Master Plan (2011) by 2035. LWSC's has seven wastewater treatment plants (WWTPs), two “conventional” plants (trickling filters)—Machinchi and Chunga—and five waste stabilization ponds. The WWTPs discharge is far from compliant with health and environmental standards into open streams, representing a serious health hazard to the nearby and downstream populations. LWSC understands that it must urgently remedy this problem, and has sought assistance from CPs.

LWSC has decided to scale-up its efforts in sanitation and sewerage. At the request of LWSC, and supported by MLGH, the Ministry of Finance (MoF) has requested the Bank's support for a new sanitation project in Lusaka. The proposed project is partly motivated by the successes of the closed WSPIP project, the Kalingalinga pilot project, the MCA-financed sanitation master plan and a pre-

feasibility study financed by the European Investment Bank (EIB). The Bank participated in an identification mission in December 2013 with EIB, African Development Bank (AfDB) and KfW to identify a potential project with the Government.

IDA financing will be used to leverage other financiers as part of a larger sanitation program. The Lusaka Sanitation Project (as detailed in this PCN) will be part of a wider Lusaka Sanitation Program, led by LWSC, with potential financing from EIB, AfDB and KfW. IDA financing is likely to be less than 20% of the total funds required for the program. IDA funds will be focused on the poverty aspects of the project and on the aspects with most significant public health impact.

### **Relationship to CAS**

The Zambian Country Partnership Strategy (FY13-FY16) focuses on three pillars: (i) reducing poverty and vulnerability of the poor; (ii) improving competitiveness and infrastructure for growth and employment; and (iii) improving governance and economic management. The project is envisaged to contribute to the first pillar through improved health of poor people, and the second pillar through enhanced economic development of the prioritized economic sectors through provision of improved infrastructure.

## **II. Proposed Development Objective(s)**

### **Proposed Development Objective(s) (From PCN)**

The project development objective is to increase access to sustainable sanitation services for the poor in Lusaka.

### **Key Results (From PCN)**

- People gaining access to sewers
- People gaining access to improved on-site sanitation facilities
- People trained to improve hygiene behavior/sanitation practices
- Direct project beneficiaries, of which x% are female

## **III. Preliminary Description**

### **Concept Description**

Component 1: Sanitation investments. The project will finance goods, works and consulting services for investments in sanitation. The component will be implemented by LWSC, but may require involvement of the Lusaka City Council for the on-site sanitation sub-component. Lusaka's 2011 Sanitation Master Plan aims at 100% sanitation coverage by 2035, through a combination of off-site (waterborne sewerage) and on-site systems. The investment strategy will provide a comprehensive city-wide approach in line with the Sanitation Master Plan, which covers both off-site and on-site systems. The project will develop clear criteria for which neighborhoods will be able to access on-site and off-site sanitation, based on technical (location, topography), environmental/social (groundwater table, accessibility) and financial (affordability) considerations. The component will include all preparation, design and supervision activities.

Sub-Component 1a) Upgrading and expanding the sewer system (US\$157 million of which the Bank may finance US\$40 million). This sub-component will finance collection system upgrade and collection system expansion. The collection system upgrade will include approximately 28km of sewers and related works. The collection system expansion will add approximately 520km to the existing network to service an additional 75,000 people through 11,000 connections. About 90% of

the cost of this component will be for system expansion and the remaining 10% will be for system upgrade (or rehabilitation). Works contracts will be packaged in five “sewersheds” (the sewer network serving a particular part of the service area) identified in the Masterplan (Machinchi, Chunga and Matero, Ngwerere, Chelston and Kaunda Square sewersheds). Conventional sewerage and condominal sewerage will be considered as appropriate. This component will also finance sewage pump stations and main collectors. The Bank will finance a portion of the above works, to be further assessed during preparation.

Sub-Component 1b) On-site sanitation and sludge management (US\$6 million, all of which the Bank may finance). The promotion and implementation of on-site sanitation facilities will be done such that it enhances service delivery along the full service delivery chain from collection of human waste through to its reuse or disposal. The TA aspect of this sub-component will cut across all investments – sewers, on-site, wastewater treatment and sludge management. Technical assistance will complement the physical activities along the following lines:

- (i) Sanitation marketing and hygiene promotion to create public awareness to promote connection to the sewer systems and highlight the health and environmental risks associated with inadequate sanitation. The promotion will also highlight some of the benefits of water borne sewerage including more effective use of the stand for development. The installation of sewers has triggered the construction of high value and high density developments in Kalingalinga. It is also anticipated to assist LWSC to use the powers under the WSS Act No. 28 of 1997 to compel people to connect to the sewerage network;
- (ii) Develop a mechanism for promoting the construction of safe pit latrines for people who are not able to access or afford a sewerage connection. During the design, the team will explore the scope for involving ward chiefs, local water trusts, or other civil society institutions in these processes to promote installation and use of sanitation facilities;
- (iii) Sludge management: The sub-component will assess how the project can improve fecal-sludge management, particularly emptying pit-latrines, and coordinate with sub-component 1d) on sludge treatment. Activities may include: (a) research into the existing market to assess the proportion of sludge that is being hygienically collected, transported and treated, and at what costs and prices; (b) assess the best combination of decentralized treatment facilities and transfer arrangements; (c) assess how to fill the gaps in the market - replacing unhygienic manual collection with micro-enterprises along the lines being developed by WSUP, and possibly financing of vacuum trucks and other equipment; (d) potentially construct decentralized treatment and/or transfer facilities as determined appropriate; (e) promote the construction of more "emptying-friendly" latrines in line with a city-wide strategy that considers both on- and off-site systems in a rational and balanced manner.

Sub-Component 1c) Improved wastewater treatment (US\$94 million, with no financing from the Bank). Under this sub-component it is proposed to rehabilitate Machinchi and Chunga wastewater treatment plants (WWTP) as critical investments needed to improve sewage treatment and disposal. As this will not be financed by the Bank, it is not detailed at this stage.

Sub-Component 1d) Sludge treatment (US\$17 million with no financing from the Bank). Under this sub-component it is proposed to construct a sludge treatment facility to adequately treat all sludge from the WWTPs and on-site facilities. The facility will also generate biogas sufficient for its own energy requirements and will assess the feasibility of re-use of the sludge. As this will not be financed by the Bank, it is not detailed at this stage.

Component 2: Institutional Strengthening (US\$8 million, of which the Bank may finance US\$ 4 million). This component will finance consulting services, goods, training and incremental operating costs to support the implementation of the project.

Sub-component 2a) Technical Assistance to LWSC. This component will improve the performance of LWSC, build capacity in operation and maintenance of sanitation services and enhance the sustainability of the investments. TA activities to be considered include: activities to support utility governance and financial management, improve operational efficiency, support tariff improvements, and expand the performance indicators to include sanitation and sewerage. There is need to strengthen the operational management and maintenance of sewers, WWTP and other sanitation facilities—inducing sewer cleaning equipment—and improve customer management and community liaison. The TA will explore how best to ensure the effectiveness of LWSC’s peri-urban unit, moving it from a project implementation unit approach towards support to the mainstreaming of peri-urban and low-income community issues into a unified city-wide sanitation planning process and the provision of a range of consumer services by LWSC. The sub-component will also support knowledge sharing and learning from alternative approaches, both generally developed to add new dimensions and processes of learning, but also building on and consolidating learning already used in Lusaka. This component will also benefit from a recently approved PPIAF grant to support the financial performance of LWSC.

Sub-component 2b) Project Management. This sub-component will finance incremental operating costs and project management costs incurred by LWSC.

Sub-component 2c) National/Municipal Component. Institutional strengthening activities could also include one or more national components; options might be components for assisting: (i) the Ministry of Local Government and Housing to enhance its capacity to coordinate the sanitation sector through its sanitation policy and sector investment framework; (ii) the National Water and Sanitation Council (NWASCO) to enhance its capacity for developing sector guidelines and establishing and enforcing standards in sanitation, including a component to benchmark sanitation indicators; (iii) the Zambia Environmental Management Agency (ZEMA) to enhance its capacity for establishing and enforcing standards for wastewater treatments and disposal. These components will also benefit from the PPIAF grants underway to support the financial performance of the LWSC; and/or (iv) TA to the Lusaka City Council to link up with environmental health services and the environmental health inspectorate, as well as a review and improve relevant byelaws. The need and feasibility for such a component will be assessed during project preparation.

#### IV. Safeguard Policies that might apply

<b>Safeguard Policies Triggered by the Project</b>	<b>Yes</b>	<b>No</b>	<b>TBD</b>
Environmental Assessment OP/BP 4.01	✘		
Natural Habitats OP/BP 4.04	✘		
Forests OP/BP 4.36		✘	
Pest Management OP 4.09		✘	
Physical Cultural Resources OP/BP 4.11		✘	
Indigenous Peoples OP/BP 4.10		✘	
Involuntary Resettlement OP/BP 4.12	✘		

Safety of Dams OP/BP 4.37		x	
Projects on International Waterways OP/BP 7.50	x		
Projects in Disputed Areas OP/BP 7.60		x	

## V. Financing (in USD Million)

Total Project Cost:	282.00	Total Bank Financing:	50.00
Financing Gap:	0.00		
<b>Financing Source</b>			<b>Amount</b>
BORROWER/RECIPIENT			0.00
International Development Association (IDA)			50.00
African Development Bank			40.00
EC European Investment Bank			137.00
GERMANY KREDITANSTALT FUR WIEDERAUFBAU (KF			55.00
Total			282.00

## VI. Contact point

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