Bulawayo Water and Sewerage Program (BOWSER)

Monitoring and Evaluation Report

September 2011

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Abbreviations and Acronyms

AusAID	Australian Agency for International Development		
BCC	Bulawayo City Council		
BOWSER	Bulawayo Water and Sanitation Emergency Response project		
BSTF	Bukawayo Sewerage Task Force		
EWS	EThekwini Water and Sanitation		
GIS	Geographic Information System		
GTZ (GIZ)	(German Technical Cooperation Agency)		
IDBZ	Infrastructure Development Bank f Zimbabwe		
ITT	Indicator Tracking Table		
M & E	Monitoring and Evaluation		
MOU	Memorandum of Understanding		
NGO	Non-Governmental Organisation		
0 & M	Operation and Maintenance		
PHHE	Participatory Health and Hygiene Education		
TOR	Terms of Reference		
UNICEF	United Nations Children's Fund		
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs		
WASH	Water, Sanitation and Hygiene		
WATSAN	Water and Sanitation		
ZESA	Zimbabwe Electricity Supply Authority		

1. Introduction

1.1. Background

In recent years Zimbabwe experienced a severe economic crisis, which reached its peakin December 2008, with extreme levels of inflation thereby rendering the currency effectively worthless. This crisis produced a number of negative impacts on the population of Zimbabwe such ashigh unemployment, with almost 20% being unemployed; and over 70% being under employed. The economic crisis, together with many years of poor maintenance resulted in significant neglect of the country's infrastructure; particularly those related to Water, Sanitation and Hygiene (WASH). Increased rural-to-urban migration, a loss of skilled workforce ('brain drain'), greater competition for resources and poor maintenance of existing hardware has also impacted WASH systems and structures. In 2008, this prolonged degradation of resources exposed the Zimbabwean population to one of the worst recent cholera epidemics and there was a significant risk of further outbreaks of disease if immediate action was not taken.

The Zimbabwe cholera epidemic emerged in August 2008 and by July 2009 over 98,000 cholera cases were reported with approximately 4,000 deaths attributed to cholera. This prolonged prevalence was driven by various factors – including limited access to safe water supply, sanitation and hygiene, diminished institutional and community capacity to handle water, sanitation and hygiene issues, inability to collect water and sanitation user fees, storage of and restricted access to spare parts, climate change, the devastating effects of HIV and AIDS, and a highly mobile population.¹

Zimbabwe's second largest city, Bulawayo, is an urban centre with a population of over 1 million residents that is steadily growing. In July 2009, an AusAID/UNICEF situational analysis detailed the existing context in Bulawayo, including a complete report on the immediate needs of the city and the challenges faced by the City Council and its residents in the area of WASH. Assessments conducted by the Bulawayo City Council (BCC) and the Bulawayo Sewage Task Force (BSTF) reported breakdowns in the town's sewage pump stations, an increase in blockages due to the unavailability of water within the system, sand traps and sewage spills and over 700 water leakages across the city resulting in the loss of over 50% of the city's treated water supply². The bulk of the city's sewerage and water piping systems were installed in the 1940s and are no longer appropriate for the increased population, particularly in the western suburbs, which have reached a very high density. This caused a considerable strain on the existing system which was on the verge of collapse.

In response to these needs, AusAID has supported World Vision to implement the BOWSER Program to address the immediate WASH needs of Bulawayo City. The Phase 1 Program commenced in June 2010 with a budget of AUD 4.6 million from AusAID and a further AUD 306,747 from World Vision. In April 2011, an additional component was added to the project to support increased financial sustainability and improved customer care for the City of Bulawayo water and sanitation services. This Phase 2 component was funded through an additional AUD 4.521 million from AusAID and AUD 997,774 from World Vision. Phase 1 of the program supports rehabilitation of sewerage and water infrastructure and promotes health education through hygiene awareness campaigns. Through Phase 2, the program also seeks to enhance billing, revenue collection, participatory health and hygiene and to strengthen the voice of the water supply and sewerage customer. The BOWSER program is implemented through a partnership between World Vision and Dabane Trust, a local NGO, and the Bulawayo City Council (BCC). BCC's existing trilateral cooperation with Durban (Ethikweni Municipality has been strengthened, with BCC benefiting from Durban technical expertise in areas such as procurement, water conservation, IT support, customer care management, development of a water and sewerage master plan, and water leak detection among others. The original completion date for Phase 1 was scheduled to be June 2011, but the program has now been extended to June 2012 to complete Phase 2.

¹ World Bank Group – Zimbabwe Country Report – accessed April 2011

² Bulawayo Sewage Task Force Meeting Minutes November 5th 2009

1.2. Purpose of this Report

This report has been prepared as a progress monitoring report of Phase 1 of the BOWSER Project. The report was prepared in conjunction with a mission to assist in the up-date and redesign of the joint German and Australia Urban Water Supply and Sanitation Programme for which the mission activities were focused on the City of Bulawayo. This provided a number of opportunities to discuss the water and sanitation situation with various departments of the Bulawayo City Council and gain further insights into the performance of the BOWSER project and the extent to which the project has benefited the City of Bulawayo.

1.3. Goal, Outcomes and Outputs

The revised goal of the BOWSER Project is that 'vulnerability to waterborne diseases is reduced in Bulawayo through improved sewerage, water supply systems, and improved customer care and financial sustainability of the City Council.'

The outcomes and outputs are as follows:

Outcome 1: At least 450,000 residents in Bulawayo have access to a functioning sewerage system

Output 1.1: 11 Pump houses are repaired and move sewage through the reticulation system

Output 1.2: Over 45 sand traps are cleared and excrement removed from site and appropriately disposed

Output 1.3: Over 200km of sewage pipes are cleared of blockages through mechanical jetting

Output 1.4: 800 meters of main outfall pipes are repaired

Outcome 2: At least 450,000 residents in Bulawayo have improved access to clean water through the city piped water systems

Output 2.1: 700 water leaks in the main Insiza line and distribution lines are repaired

Output 2.2: Rehabilitation of Pumps at Ncema, Fernhill and Criterion

Output 2.3: Rehabilitation of waterworks (filters and clarifiers) at Ncema, Fernhill and Criterion

Output 2.4: All pumps at Ncema Fernhill and Criterion are fitted with meters

Outcome 3: Bulawayo City Council staff are trained and enabled to respond to the city's sewage and water maintenance requirements

Output 3.1: BCC staff provided with training on sewerage system maintenance

Output 3.2: BCC staff provided with training on water system maintenance

Output 3.3: BCC staff trained on the fitting and reading of meters and detection of water leaks

Output 3.4: Public Awareness Campaign on PHHE launched

The Phase 2 activities of BOWSER also include a fourth outcome as follows:

Outcome 4: City Of Bulawayo has increased financial sustainability with improved customer care.

Output 4.1: Upgraded City Council billing and revenue collection system

- Output 4.2: Enhanced capacity to meet customer service needs
- Output 4.3: Customer relationship management and response centre is launched
- Output 4.4: Improved Community Awareness

2. Current Status and Performance

The initial project was scheduled to run from April 2010 until June 2011. However, with the need to finalise plans and project targets, as well as memoranda of understanding between the project partners, the project only commenced in earnest in June 2010. Since then, delays in procurement, breakdown of existing BCC equipment and vehicles, and challenges in determining exact project specifications for items required for the rehabilitation works to commence has resulted in further delays to the project, such that Phase 1 is now expected to be completed by December 2011.

With the increased scope of works covered under Phase 2, World Vision has revised this time frame with a new project end date of June 2012. The emergency rehabilitation component of works (Phase 1) is expected to finish by December 2011 and Outcome 4, leading to the sustainability of the project and of the BCC (Phase 2), is expected to end in June 2012.

The BOWSER Progress Report covering the period 1 April 2010 to 31 August 2011 was submitted by World Vision at the end of August 2011. This M&E report provides an assessment of the 31 August BOWSER Progress Report.

2.1. Status of BOWER Program Against proposed Program Indicators

World Vision has prepared a Logframe and M&E Plan for the agreed BOWSER outcomes, outputs and activities. The M&E Plan essentially measures progress against activities while the Logframe provided indicators for outcomes, outputs and activities. This assessment is focused more upon outcomes and outputs than activities and has therefore monitored performance primarily against the Logframe. The data gathered and analysed in the World Vision August Progress Report uses an Output Indicator Tracking Table (ITT) to measure a mix of outputs and activities and suggests a completion rate of 87.7 % of the Phase 1 activities. However, since most of the outputs have not yet been completed and there is no quantitative indication that any of the outcomes have been achieved, this value is less meaningful. Annexe 1 provides an analysis of the current status of the BOWSER Programme's outcomes and outputs based on the World Vision logframe using the information from the August 2011 Progress Report. This shows that considerable progress has been made against most of the outputs, but that performance against outcomes cannot yet be measured. Measurement against outputs, and particularly outcomes, is made more difficult by the fact that no health or social baseline has yet been undertaken and the technical baseline was only completed in August 2011. The contract for the social baseline has now been awarded and preliminary results are expected by the end of October 2011. This will assist in measuring achievement against outcomes by the completion of the Program in June 2012.

2.2. Status of BOWSER Program against AusAID WASH M&E Indicators

BOWSER performance has also been measured against the AusAID Wash Indicators for Key Result Areas and three of the relevant Strategic Objectives. This is shown in **Annexe 2**. Once again, absence of a health and social baseline survey for the Program makes it difficult to adequately measure performance against these indicators and Strategic Objectives and it is really still too early to expect quantitative data on the outcomes. World Vision has now contracted the social baseline survey which should be undertaken during October which will form the basis for further evaluation, especially with regard to the indicators regarding hygiene awareness and community perceptions. However, there is much anecdotal evidence regarding the AusAID WASH indicators from the work undertaken by BOWSER to date and this is indicated in the response to questions included in **Annexe 2**.

3. Key Achievements to Date

The following table outlines the key achievements of the BOWSER program as outlined in the World Vision August 2011 Progress Report and as observed during the recent mission GIZ/AusAID mission during September 2011.

Output	Achievement (August 2011	Comment
Outcome 1: At least 450,000 residents in Bulawayo have access to a functioning sewage system.	Progress Report)	450,000 residents represents the SAST and Ailesby catchments. Some improvements to the system functionality is apparent, but it cannot yet be said to be functioning effectively
Output 1.1: 11 pump-stations repaired and functioning	No pumps have been repaired. Contract has been awarded and pump-station works are in progress, expected to be finalised by the 20 th of December 2011.	Availability of power for these pump stations will need to be considered further. What arrangements are in place to overflow sewage in the event of prolonged power cuts? The power issue is left to the engineering services to find out either alternative power supply option or negotiation with ZESA to provide power as part of priority areas that requires none stop power at least during peak hours
Output 1.2: 45 Sand-traps cleared and functioning effectively	45 Sand Traps have been successfully cleared and are functioning effectively. Raising of sand traps and manholes and construction of sandtrap covers also in place. Design developed for 12 new sand traps.	It may be appropriate for BCC to review the use of sand traps in the system and the approach in clearing them ie using mechanised rather than manual means.
Output 1.3: 250 kilometres of the City's Sewerage pipes cleared of blockages	228 kilometres of 250 kilometres of sewer lines have been cleared using HP/HV jetting. 100 blockages also de-choked.	Flow of wastewater into SAST appears to validate the impact of clearing sewers. BCC have some concerns regarding the use of the current jetting machine for larger sewers and the use of potable water for jetting. Some further considerations on the future strategy for sewer jetting is required.
Outfall 1.4: Outfall pipes repaired and functioning	Contract has been awarded. Work is in progress	Currently BOWSER is repairing 4 sections of outfall pipe in SAST catchment. BCC repairing other major outfalls in Ailesby catchment. Currently all the outfall sewer pipe
Outcome 2: At least 450,000		rehabilitation works have been finalized awaiting commissioning While improvements are still
residents in Bulawayo have improved access to a functioning water system		ongoing, city is reported to have 24/7 water supply although the demand may be constrained.
Output 2.1: Effective delivery of water along main Insiza water line and distribution lines	Contracts have been awarded for leak repairs on the main Inciza line. 670 leaks in the distribution system have been repaired	Impact of leak repairs on the distribution system apparent from improved water service. Additional water will also be available when repairs to the main line are

		completed.
Output 2.2: Clean water delivered from Ncema, Fernhill and Criterion	Contract for Chemical Dosing Equipment has been awarded. Zone meters have been procured and are awaiting installation. Distribution tools have been procured and delivered to the BCC	Works at Criterion have been deleted from the program due to cost constraints, but some works are being done at Criterion by BCC using IDBZ funding. Complementary activities on Ncema treatment works and Fernhill PS are also being funded through IDBZ. Zone meters will need to be complemented by reservoir outlet bulk meters that are yet unfunded.
Outcome 3: City of Bulawayo residents and its council staff have improved water, sanitation and hygiene practices to optimise available resources and services		While activities have been undertaken under BOWSER, information is not yet available to determine impact of interventions.
Output 3.1: BCC staff have increased knowledge on relevant water, sanitation and hygiene issues	TNA completed with BCC staff and PHHE and IEC materials produced	No clear indicators to demonstrate that BCC staff has increased knowledge of hygiene activities. PR department have been primarily involved, which may be appropriate for water and sanitation awareness activities, but not necessarily hygiene. Need investigate role of health departments and its outreach activities in hygiene promotion.
Output 3.2: Residents of Bulawayo have increased awareness and application of water, sewerage and hygiene related issues	Participant targets for Training of Trainers reached. 19 road shows conducted reaching about 5,000 inhabitants. Training of trainers conducted for schools, churches and community leaders. IEC materials produced and distributed. Billboards in process of being established throughout the city.	While activities have been undertaken, there is a need to establish indicators to demonstrate that there has been an impact in the community.

Other achievements, not specific to the outputs of the Phase 1 program are outlined below:

Partnership with EThekwini Water and Sanitation (EWS)

The twinning partnership arrangement with EWS is considered to be a critical element in the continued rehabilitation and development of water and sanitation in Bulawayo, in particular in support of the activities being undertaken related to financial management and customer care through Phase 2 of BOWSER. EWS has also supported BCC and the BOWSER activities in areas related to the GIS system, review of tenders, strategic master planning, water conservation, tariff setting, customer care management, hygiene awareness promotion and measurement of non-revenue water. The BOWSER program has been critical in fostering and expanding this relationship, and in covering the cost of travel and accommodation for EWS personnel during visits. Continuation of this arrangement is critical to the sustainability of many of the BOWSER achievements and it is encouraging that a new Agreement between BCC and EWS was reviewed and signed off during September 2011.

Geographic Information System

World Vision, together with Dabane's GIS Specialists have provided capacity building to BCC staff in developing strategies to gather data and translate this information on to a Google Earth platform from which it is proposed to convert to ArcGIS. Much of the sewerage network has been mapped together with data attributes. Mapping of the water network is now being commenced. This information has been provided to BOSCH consultants who are updating the data as part of their Master Plan preparation work. One of the difficulties with the GIS program has been the difficulty in ensuring that adequately trained and qualified staff has been mobilized to the project. This has largely been a result of more experienced staff departing both Dabane and World Vision and the shortage of qualified staff within Zimbabwe to assume the role of GIS Officer. The partners have agreed upon an action plan that will involve seconding one staff member from Dabane to the BCC to continue with the gathering of data; and attempts are currently being made to recruit a suitably qualified GIS Officer to take responsibility for integrating the gathered data to the BCC masterplan as well as provide further capacity-building to BCC and World Vision staff.

Sustainability of this GIS system will be an issue that will need to be addressed by World Vision during the remaining duration of the program. The role of the BOSCH consultants and EThekwini Water and Sanitation, as well as the proposed technical support from GIZ/AusAID, will be critical in ensuring the GIS system continues to be updated and is used appropriately. Recruitment by BCC of an experienced GIS Manager and suitable GIS operators, together with the identification within management of a 'champion' for the system will be essential for the sustainability of this system.

Relationship with BCC

The positive relationships developed between the BOWSER team and BCC has contributed immensely toward the success of the program. The observation during the GIZ/AusAID mission was the consultative approach between BCC and the World Vision team and the clear appreciation of BCC personnel for the assistance being provided through BOWSER. This collaborative relationship was also demonstrated through the working together of the BOWSER team with BCC to determine how best to program the activities to be implemented by BOWSER and those funded through the Infrastructure Development Bank of Zimbabwe (IDBZ) \$6.4 million loan. The establishment of a BOWSER project team in the BCC offices also contributed to the positive relationships. Currently, following the completion of the role of the Bulawayo Sewerage Task Force, the BOWSER Steering Committee serves a role to coordinate the various donor inputs to the water and sewerage sector in Bulawayo. However, this is not its primary function which highlights the need to establish a formal Steering Committee chaired by BCC and including representatives from the various groups supporting BCC to coordinate all inputs in the sector.

Phase 2 Activities

Activities on Phase 2 have now commenced with procurement processes in progress for desktop computers, servers, and internet service provision for revenue collection and the Call Centre, WAN and LAN equipment and software. The BOWSER team is taking a largely project management role in these activities, and will need continued technical support from, in particular, EWS in rolling out the financial management and customer care systems. It is also suggested that the BOWSER team coordinate where possible with the proposed GIZ team during Phase 2 implementation for support and technical advice. During the GIZ/AusAID mission, it was observed that the BOWSER team had been given an incorrect specification from BCC for one of the servers, but this was able to be corrected by the intervention of the GIZ Financial/IT Specialist. It is considered that this Specialist, who was responsible for the design of this component, have an ongoing role in providing advice to BOWSER on issues such as evaluation of tender documents for the WAN and LAN and in tender evaluation.

4. Lessons Learned

Some of the lessons learned during the duration of the BOWSER project have been as follows:

- The importance of developing and agreeing on clear MOUs between the implementing partners to ensure the respective roles and responsibilities as well as the outputs and outcomes are agreed upon by all the partners.
- A range of expertise and experience is required to effectively evaluate tenders in the current environment in Zimbabwe to ensure that the most suitable suppliers and contractors are selected. Assistance from EWS in this process has been invaluable and effective procurement templates have been developed for BCC that will enhance sustainability of the procurement process in the future.
- Bulawayo has a background in delivery of water and sewerage services with existing management, as well as financial and technical skills but requires additional resources for project implementation. Based on the progress that has been made in the project to date, it is clear that the BCC has demonstrated that it has the capacity to perform tasks when provided with the appropriate materials and support. Provided BCC prioritises maintenance of equipment that has been provided in this project and ensures that adequate financial and human resources are provided for O&M and further training and capacity building, the gains made during the project should be sustainable.
- Despite some of the innovative approaches that have been used in this project to mobilise community members to participate in PHHE awareness campaigns, there is still an expectation from some community members to receive some form of incentive for participation. This may be best approached by maximising the utilisation of awareness campaigns that are integrated into community member's daily habits and provide information in an informative and interactive way.
- Co-location of the BOWSER in the BCC office and has resulted in the development of good working
 relationships with BCC staff and the opportunity for hands-on training (especially in the GIS
 activities). Many activities, including tender evaluation and GIS mapping, have been carried out in
 conjunction with or by BCC personnel assisted by the BOWSER team.
- Some delays were experienced in the implementation of project activities, in particular through the need for World Vision to scale up their capacity to implement an urban water supply and sanitation project of this nature and to secure the relevant technical expertise required to undertake detailed specification development for each major activity. Other delays resulted from the need to properly coordinate and workshop the implementation of activities with BCC to ensure that the partnership was truly collaborative. These delays need to be built into the scheduling of projects of this nature to enhance the opportunities for sustainability.

5. Key Issues and Challenges

Some of the key issues and challenges that have faced the BOWSER program are outlined below:

Adhering to Program Schedules

The Phase 1 BOWSER program was originally scheduled to be completed by June 2011, but is currently running at least 6 months behind that schedule. These delays primarily resulted from the time taken for World Vision to scale up to implement an urban project of this nature, the time taken to engage effectively with BCC, the need to program the BOWSER activities and those being implemented by BCC from other sources (such as IDBZ) to avoid overlap in procurement activities (discussed further below). However, delays associated with engaging BCC and agreeing on suitable procurement processes have been mitigated by the effective relationship between the BOWSER team and BCC which will enhance the prospect of sustainability.

Enhancing Sustainability

Although the BOWSER Program was originally conceived as an emergency intervention to provide clean water and reduce pollution and disease caused by uncontrolled wastewater disposal, sustainability of the program outputs is a key success factor. While it is always difficult to make an assessment of the BCC's motivation and ability to continue the project initiatives, some approaches have been developed to maximise the prospect of sustainability. These include:

- Agreeing on tender processes and involving BCC in the tender evaluation and ongoing monitoring and supervision of awarded contracts.
- Co-locating the Project Manager, as well as the WASH, IT and GIS Coordinators at the BCC to improve communication, team cohesion and motivation.
- Emphasising capacity building of BCC staff in project activities.
- Supporting the twinning arrangement with EWS.
- Advocating (with the support of EWS and other stakeholders and donors) that ring-fencing of future revenue is used for ongoing maintenance and further infrastructure development.
- Ensuring that project activities, achievements and benefits were driven from within BCC and its staff to create a sense of ownership of the project outputs
- Requiring that BCC staff is dedicated to specific project activities and that decisions are made by key personnel within the Engineering Services Department to ensure that the project aligns with ongoing works.

Procurement

Procurement has possibly been the single most factor responsible for delays. Initially there was some debate within BCC regarding the respective roles of World Vision and BCC in the procurement process. This was resolved satisfactorily with the outcome that BCC was fully involved in the preparation of tender documentation and in technical evaluation of tenders. However, World Vision continues to be responsible for the financial evaluation. Preparation of tender documentation has been slow and the somewhat artificial market for services in Zimbabwe has often resulted in a wide range of tender prices, often well in excess of the engineers estimate and the budget. This has on occasions resulted in the need to reduce and re-package the tenders to fit within the budget with consequent delays. Delivery times for equipment, the vast bulk of which is imported, has also resulted in considerable delay and there have also been significant delays in accessing materials and tools for project interventions (particularly in sanitation). The lack of institutional memory within BCC in terms of maps and system designs has made the preparation of equipment specifications a challenge. As a result, more accurate and realistic schedules for procurement have been developed to ensure that materials are supplied on time and in accordance with the activity plans.

Staff for GIS Development

While for most of the activities, it has been possible to utilize BCC personnel for implementation, some difficulties have been experienced in finding and retaining adequately trained and qualified staff to lead the GIS mapping process. In order to progress the mapping, a GIS Officer from Dabane Trust has been seconded to BCC to finalise data gathering. However, if the GIS is to be sustained within BCC it is essential that a suitable GIS Officer be recruited by BCC to be responsible for maintaining the system and decision-making on GIS processes. A 'champion' for the GIS system should also be identified within the BCC management. For the GIS to be sustainable, it is likely that continued assistance from EWS and BOSCH consultants will be necessary to provide some technical assistance and oversight. The proposed GIZ/AusAID program should also assist as required.

6. Conclusions and Recommendations

Overall Performance

Although at this stage is not possible to determine whether the outcomes have been achieved and while most of the outputs have only partially been achieved, the Program appears to be on track for a successful outcome in terms of its objectives and sustainability outcomes. It is probable that as a stand-alone activity, sustainability would be questionable despite the excellent efforts of World Vision and its partners to create ownership within the BCC for the project activities, outputs and outcomes. However, the probable long-term engagement of EThekwini Water and Sanitation, in both strategic planning and support for financial management and customer care as well as the proposed GIZ/AusAID program will build on the BOWSER initiatives and most likely lead to a sustainable outcome.

Monitoring and Evaluation

World Vision has developed a Logframe and Monitoring and Evaluation Plan for the program that uses an Indicator Tracking Table (ITT) to determine progress toward outcomes. In addition, World Vision has been able to document life changing stories that outline key achievements at the beneficiary and community level. However, the M&E Plan and the Indicator Tracking Table measure primarily progress against activities and some outputs that have a quantitative measurement. There appears to be no process to measure outcomes, or some outputs especially those related to the awareness programs. It is also difficult to measure progress against AusAID's key results areas and strategic WASH objectives. One of the reasons for this difficulty has been the absence of a baseline against which to measure outcome and outputs. A technical baseline has only been prepared in the past month, and a social and poverty baseline is reportedly due to be prepared in the coming months. However, the late completion of these surveys will compromise the accuracy of any reported improvements against baseline.

It is recommended that the social baseline survey be conducted as soon as possible and that it include indicators to enable measurement of performance against AusAID's WASH indicators. The next Progress Report should also address performance using the recommendations of the recently conducted technical baseline study

Sustainability

While the BOWSER Project was initially conceived as an emergency intervention, sustainability of the outcomes and outputs is nevertheless an important objective. The BOWSER team has developed approaches that enhance the prospects of sustainability such as the involvement of BCC in the decision making processes of the program and encouraging and supporting the increased presence of EWS in activities to assist BCC. Sustainability of the gains made through BOWSER will be further enhanced through the proposed GIZ/AusAID Urban Water Supply and Sanitation Project. It is therefore important that BOWSER continue to support the EWS partnership and work closely with GIZ in the transition phase as BOWSER closes and GIZ mobilises. However, despite the efforts of BOWSER to promote activities that lead to sustainability, there are several factors that will need to be addressed over the coming years if the progress made through BOWSER is to be sustained, but which are beyond the current scope of BOWSER. These are:

- The technical complexity of the sewage treatment systems and national effluent standards. The technology utilised may not be appropriate for the current resources available within BCC and for the economic status of the consumers.
- The high energy and operations and maintenance costs of the water supply and sewerage systems and the current power supply situation in Zimbabwe
- The capacity of the consumers to pay tariffs that will not only cover O&M costs, but allow for system replacement and expansion.
- The continuing poor level of revenue collection

• The high rate of unaccounted for water.

These issues will be addressed to some extent during BOWSER Phase 2, but also through the continuing support from EWS and the proposed GIZ/AusAID program.

The BOWSER team to continue to promote and support the EWS partnership and to coordinate closely with the GIZ team during the remaining duration of BOWSER and the start-up period of the GIZ/AusAID project. The current Steering Committee to be expanded to include representatives from EWS and GIZ and to be increasingly managed by BCC.

Water Supply, Sanitation and Hygiene Awareness

Component 3 of BOWSER addresses awareness of water supply and sanitation issues as well as hygiene awareness. This has been implemented through the Public Relations Department of BCC. These activities are still ongoing, but are at an advanced state of completion. However, the lack of a baseline survey has made it difficult to evaluate the impact of the activities and measure outcomes. It addition, the Program does not seem to have engaged with the Department of Health (DOH) in the hygiene awareness activities or used the potential outreach facilities of the DOH for transmitting hygiene messages. The role of the BCC Health Department in hygiene awareness programs is not clear, but this could be investigated further by the BOWSER team

BOWSER to complete the social baseline survey and in the next Progress Report provide details of impact of the water supply, sanitation and hygiene awareness programs. Opportunities for involving the BCC Health Department in the hygiene awareness activities to be investigated.

Social Safeguards and Cross-Cutting Themes

Gender

The BOWSER Program impacts all residents of the targeted areas with no discrimination based on gender, age, religious or political grounds. A key finding in evaluations conducted following the cholera outbreak of 2008 – 2009 was that whilst participation and trainings focused on women were high, adult males especially in urban areas were the least targeted group in terms of hygiene education and were also the ones most likely to exhibit unhygienic WASH practices. As a result, while the project has ensured that there is appropriate female participation in decision making and in awareness raising, special focus has been made in targeting key hygiene promotion messages towards men. However, measurement of the impact of the program on gender issues is yet to be quantitatively measured.

Poverty

The intervention is based in the poorer, high density suburbs of Bulawayo and therefore targets some of the most vulnerable populations in the city. The programme for PHHE uses mass media including public billboards to raise awareness and has been conducted to ensure participation of all age groups, as the cholera outbreak and all health related diseases do not segregate on health, age or social status. All communities in project areas and their councillors are given prior notice with specific information on the project and the expected outcomes in their area. Any feedback they may have to the project implementers or in general are channelled to the appropriate party with the BCC agreeing to the clearly defined standards of response and resolution to all complaints received. As a child focused organisation, World Vision also assesses and monitors any potential threats to children. A Complaints Response Mechanism is used to help identify any potential dangers within communities.

Environment

The August 2011 Progress Report advised that the project has an ongoing acknowledgment of the need to protect the environment and ensure that any potential threat to the environment is recognised. It suggested that the risk of environmental damage has been minimised by consulting all relevant BCC by-laws and BCC staff in project interventions and that the technical baseline for the project did not identify any major environmental concerns that needed to be addressed. However, the removal of raw sewage from within the service area through unblocking sewers and repairing outfalls does transfer the environmental issues to the receiving waters downstream of the non-functional sewage treatment plants and this needs to be acknowledged in the program outcomes.

The Program M&E framework needs to be updated to better reflect impact on cross-cutting issues and the social baseline survey needs to be undertaken. The framework should include any impact of the environment resulting from the BOWSER activities.

Risk Management

The Phase 1 proposal did not include a risk management matrix, but this was included in the Phase 2 proposal. Principal risks that apply to both Phase 1 and Phase 2 are (i) the unstable political environment; (ii) risk of corrupt procurement processes; (iii) that project impacts will not be sustained after completion of project; and (iv) lack of coordination in various donor activities in water and sanitation. These risks have been addressed in a general manner in the August 2011 Progress Report, but in future reports could be addressed in a more formal manner.

Future Progress Reports to address risk for both Phase 1 and Phase 2 outcomes in a specific section.

Phase 2 Activities

This assessment has generally addressed the Phase 1 activities. Phase 2 is in the early stages of procurement of equipment and it is too early to monitor the impact. However, sustainability of the Phase 1 activities will to a large extent be dependent on the success of Phase 2 in improving the revenue base of BCC and improving relationships between BCC and the customer. Early indications are that the success of Phase 2 will be dependent on complementary activities being undertaken through the EWS support and the proposed GIZ/AusAID interventions. It is therefore crucial that BOWSER continue to actively support the EWS relationship and coordinate closely with the proposed GIZ/AusAID program.

BOWSER continues to actively support the EWS relationship and coordinate closely with the proposed GIZ/AusAID program. The newly signed BCC and EWS Memorandum of Understanding should also be shared with the BOWSER team to guide the programming of the Phase 2 activities.

Annexe 1 - BOWSER Project Monitoring and Evaluation Framework

Outcomes	Indicator	Status	Outputs	Indicator	Status
At least 450,000 residents in Bulawayo have access to a functioning sewerage system	% of sewerage systems repaired that are adequately operated and maintained by BCC	Unable to measure progress against indicator at current time. This will be measured during End of Project Evaluation.	Pumphouses repaired and functioning Sandtraps cleared and functioning effectively	11pumphouseseffectivelymovingsewagethroughthesewerageseweragesystem45sandtrapsareclearedclearedandfunctioningwithsurroundingareacleared of excrement	No pumps have been repaired. Contract has been awarded and pump-station works are in progress. 45 Sand Traps have been successfully cleared and are functioning effectively
	% of communities with reduced sewage overflows in their communities	Unable to measure progress against indicator at current time. This information will be formally gathered during Software Baseline.	Sewerage pipes cleared of blockages	% decrease in no. of pipe blockages	Baseline figure has been gathered. % decrease will be measured as part of EOP Evaluation. 228 kilometres of 250 kilometres of sewer lines have been cleared using HP/HV jetting. 100 blockages de- choked
			Outfall pipes repaired and functioning	800 m of main outfall pipes repaired and functioning	247 metres of pipeblockages removed.241 metres of columnsconstructed.
			Enhanced participation of project partners in management of sewerage system	No. of men and women actively engaging in and contributing to management and oversight of the sewerage system	GIS model established for sewerage system. Technical and financial evaluation of tenders for contracts involves female representatives from BCC and will be involved in ongoing monitoring and sign-off of works.
At least 450,000 residents in Bulawayo have improved access to a functioning water system	% of water supply systems repaired that are adequately operated and maintained by BCC	Unable to measure progress toward indicator at current time. This will be measured formally during end of project evaluation.	Effective delivery of water along main Insiza water line and distribution lines	Decrease in the number of reported water leaks	Currently awaiting the most recent data from BCC. This will be forwarded as soon as possible. 670 of water leaks repaired on distribution lines.
					Repairs to Insiza to Ncema, Ncema to Tuli Hill, Ncema to Criterion, Nyamandlovu wellfield and valves along supply pipelines still in progress
			Clean water delivered to Ncema, Fernhill and Criterion (pumps functioning)	Pumps at Ncema, Fernhill and Criterion functioning and effectively pumping required quantities of water.	Contract for Chemical Dosing Equipment has been awarded. Zone meters have been procured and are

Outcomes	Indicator	Status	Outputs	Indicator	Status
					awaiting installation. Distribution tools have been procured and delivered to the BCC.
					Procurement in progress for supply of further pumps for Ncema and Fernhil and water treatment plant equipment
	% of households with improved access to safe water through the reticulated water supply	Unable to measure progress toward indicator at current time. This will be measured during End of Project Evaluation.	Enhanced participation of project partners on management of WASH system	% of contractors, BCC staff and other institutions responsible for the management, overseeing of water supply project work to be women	Female representatives from BCC Water Department have been involved tendering processes and will be involved in ongoing monitoring of works and final sign-off works completed.
					GIS equipment provided and office established, water distribution tools provided, GIS training undertaken, 4 new cars purchased. Twinning arrangement
					with EWS supported
City of Bulawayo residents and its Council staff have improved water,	% of HH who report changed practices in the operation and maintenance of toilets	To be measured in software baseline and EOP evaluation.	BCC staff have increased knowledge of relevant water, sanitation and	% of BCC staff who demonstrate improved knowledge and awareness of WASH	TNA completed with BCC staff and PHHE and IEC materials produced
sanitation and hygiene practices to optimise available resources and	% increase in residents of Bulawayo demonstrating good hygiene practices and especially	To be measured in software baseline and EOP evaluation.	hygiene issues	issues. (this will be evaluated during the PHHE review process)	Inceptions meetings with councillors and residents associations achieved
services	handwashing with soap % increase in community participation in water conservation	To be measured in software baseline and EOP evaluation.	Residents of Bulawayo have increased awareness and increased	% of households with improved knowledge on the operation and maintenance of toilets.	To be measured in software baseline.
	%WASH funds directed to hygiene activities	5%	application of water, sewerage and bygiene related		awareness campaigns conducted at school
	% women members of institutions responsible for planning overseeing O&M of water supply services	30%	issues.		19 of a target of 20 awareness road-show campaigns targeting 5000 people have been completed

Annexe 2 – BOWSER Performance Against AusAID WASH M&E Framework

AU	ISAID	WASH	Strategic	Performance	Comment
Ob	jectives				
Ke	y Result	Areas			
1.	No. of a with acc	dditional	people fe water		This is yet to be evaluated; however the significant activities that are taking place under the water component of the project will significantly improve the functionality and quantity of safe water to 450,000residents. It is important to note that the project does not include new connections to the City's water system but improving the functionality of the current system.
2.	No. of a with acc sanitatio	dditional cess to ba on	people sic		This is yet to be evaluated. As mentioned above, the project does not intend to increase the number of people that are connected to the City's Sewerage system, but to improved access to functioning and effective sewerage system.
3.	No. of a with han and soa	dditional ndwashin p	locations g facilities		This will not be evaluated as this is not part of the scope of the project. The number of people using hand-washing facilities and soap will be measured through in the baseline, but this will not extend to the number of additional hand-washing facilities.
4.	No. of a with toi facilities	dditional lets, hand s and soar	schools Iwashing D		This is not part of the scope of the project and will not be measured. The behaviours related to hand-washing in schools will be measured in the project software baseline and has been captured already through KIIs with teachers and

		in Most Significant Change
		stories and can be supplied if
		required.
5. Trend in incidence of	242 cases of diarrheal disease	This information has been
diarrhoea for program	have been reported in	provided by the BCC
locations from health	program area clinics in the	Department of Health through
agency data.	past 2 weeks as at	the baseline data collection
	24/10/2011.	process. The DoH is unable to
		provide figures from previous
		months to be able to
		demonstrate the trend in
		incidence; however a
		commitment has been made
		to capture this data on a
		monthly basis.
Key Strategic Result Area 1 –		
Access to Water and		
Sanitation		
1.1. Proportion of population		As referred to in Key Result
in target area using an		Area 1.
improved drinking water		
source		
1.2. Proportion of population		As referred to in Key Result
In target area using		Area 2.
Improved sanitation.	400/	
1.3. % OF BOWSER WASH	40%	
1.4.% of BOWSER WASH funds	27%	
to sanitation activities	2770	
1.5 No. of additional open		This indicator will not be
defecation free		measured in the project.
communities in target area		
Key Strategic Result Area 2 –		
Promote good hygiene		
practices		
2.1. No. of additional people		This will be measured as part
treating drinking water		of the software baseline.
2.2. Trend in sales of		This will be measured as part
handwashing soap		of the software baseline.
2.3. Trend in incidence of		BCC Health Department unable
diarrhoeal disease in		to provide this information at
target area –		current time.
disaggregated by infants		We are currently awaiting the
(0-2), children (2-10), men		most recent data from the BCC
and women		Health Department. This
		information should be
		Sentember
		information should be available by Tuesday 27 th of September.

2.4. Trend in number of 5 years old mortality rate due to diarrhoea		BCC Health Department unable to provide this information at current time. As mentioned above, we are currently awaiting the most recent data from the BCC Health Department. This information should be available by Tuesday 27 th of September.
2.5. % WASH funds directed to hygiene activities	5%	
Strategic Objective 3 – Support institutional Reform and Strengthen Policy and Practice		
3.1. % women members of responsible for planning and overseeing operation and management of BCC water supply and sanitation services	30% (BCC Engineering Department – Water and Sanitation)	
3.2. Ratio of capital and recurrent expenditure allocated for water supply in BCC budget		Official and accurate figures of this ratio have been difficult to obtain from the BCC. This information may be available once the BCC budgeting process is finalised.
3.3. Ratio of capital and recurrent expenditure allocated for sanitation in BCC budget		As above.
3.4. % of non-revenue water in piped network		Following information taken from BOWSER Technical Baseline Report (Gildea, 2011) 'Distribution system losses of treated water were estimated to be around 25 per cent in 1996 ⁷ . Given the poor condition of water supply treatment and pumping equipment combined with ageing and leaking pipes and fittings, it is likely that in 2010 losses would be much higher than the 1996 figure. As much of the recording equipment (water meters, flow meters

	etc) is not operational, it is difficult to estimate a current figure for total non-revenue water (NRW).'

Questions

Strategic Objective 1

1. What are the user perceptions of the functionality, reliability and quality of the water supply, sewerage and sanitation system provided by BCC?

The functionality and reliability of the water supply has improved in the project as a result of the ongoing repairs of leaks and the reduction in the periods of time that it has taken for BCC staff to respond to leaks in the system. This progress has largely been made possible as a result of the provision of leak repair materials in the project. The quality of water supply will be improved as a result of the finalisation of works for the main line leak repairs as well as tendered repairs of filters, clarifiers and pumps at the designated project sites.

The reliability of sewerage system has improved as a result of extensive de-choking and the use of high pressure and high volume jetting of blockages. At the household level, manual dechoking has significantly reduced the incidence of sewer over flows. The increased reliability of the sewerage system is represented by the most recent budget consultations with community members in the development of the BCC 2012 budget. During these consultations it was found that community members placed sewerage as the 5th most important service delivery priority for BCC to address; as opposed to the highest priority in the past 2 years.

2. What is the level of user demand for safe water supply, sewerage and sanitation facilities?

Water consumption currently stands at 135 000m³/per day for the City of Bulawayo as suppressed supply.

The demand for improved sanitation services will be further explored during the software baseline; however the informal feedback received from residents has shown that there is an increased awareness of residents to have the right to expect improved service delivery from the BCC as a result of making timely payment of BCC issued bills.

3. How are women involved in the planning and overseeing operation and maintenance of the BCC water supply, sewerage and sanitation services?

The BCC Water and Sanitation Engineering Services Departments have a total of four and two women respectively that oversee the planning and maintenance of both water and sewer systems.

4. How are the water supply and basic sanitation needs of women addressed by the BCC?

BCC has drilled a number of boreholes to cater for the needs of women during water cuts period in an attempt to reduce the time and distance that it takes for women to collect water for household use.

5. How are the water supply and basic sanitation needs of poor, disadvantaged and disabled addressed by the BCC?

BCC has allocated 5000m³ per month of water at no cost to the household in attempt to ensure that the disadvantaged, disabled and the poor have access to a minimum amount of water for daily consumption.

6. How have environmental sustainability implications in the delivery of improved water supply and sanitation been addressed by BOWSER.

The BOWSER project has ensured that all water and sanitation infrastructure activities have been commissioned in consultation with the Zimbabwe Environmental Management Authority. These consultations have been facilitated by the relevant BCC Departments and this consequently influenced the decisions made in the project.

Strategic Objective 2

7. Are people demonstrating good hygiene knowledge and practices – especially handwashing?

School Health Masters from various schools within the project area have reported improved hand-washing behaviours of students. This has been found following observation of pupil behaviour after the use of the toilet. Informal monitoring would suggest that residents have responded positively to the messaging featured in the PHHE campaigns; however this cannot be substantiated due to lack of monitoring measures available at household level. This will be explored further during the Software Baseline as well as the evaluation of the PHHE campaigns to date.

8. What have been the most and less successful approaches to hygiene promotion?

Whilst the project has used various approaches for hygiene promotion, it has been found that the 'community road-shows' have been the most effective approach in reaching the most number of residents and presenting a message that is most relevant to participants. The 'road-shows' have provide the opportunity to present strong health and hygiene messages through pamphlets and posters as well as the use of drama and music that has been relevant to a wide range of participants of various age groups.

9. To what extent has institutional capacity been developed within BCC to implement large scale hygiene promotion.

The BCC Public Relations Department have been trained to design and develop PHHE tool kits and IEC materials, as well as effective techniques to mobilise community members for largescale hygiene promotion. The BCC's Health Department has been trained to conduct hygiene promotion awareness campaigns to various audiences (school and community). There is a recognition that the PR and Health Departments will need to work more closely together in Phase 2 of the project as well as beyond the timeframe of the project.

10. How is hygiene promotion being integrated into school education in Bulawayo?

School Health Masters have been trained and encouraged to form health clubs in schools to ensure that students are continually provided with relevant health information that can be disseminated to the students. Teachers have also been provided with relevant materials to ensure that health and hygiene messaging is integrated into the school curriculum.

11. What is the longevity of the behavioural changes achieved?

The project recognises that the BCC will need to ensure that PHHE campaigns are continued to ensure that residents continue the behaviour changes that have been part of this project. The longevity and sustainability of these behaviours will be evaluated End of Project Evaluation.

Strategic Objective 3

12. How has the capacity of BCC to develop and implement sector policy and strategy changed and is any of this attributable to BOWSER?

Since the commencement of the project, both the Water and Sanitation sections of the BCC Engineering Services Department's have observed the importance of operation and maintenance of materials to increase their response capacity on operational issues. This has been represented by staff placing increased emphasis on replenishing the required stocks in the preparation of yearly budgets. The development of ring-fencing policies is ongoing and has been pursued by the Engineering Department to ensure that the necessary allocations are made toward ongoing maintenance and operation of water and sanitation infrastructure.

13. How sustainable is the fee structure to ensure appropriate operation and maintenance of the water supply and sewerage system?

At this particular time there are some concerns regarding sustainability, not necessarily because of the fee structure or tariff that is charged for the provision of water and sanitation services but rather the willingness of the BCC to use the revenue for operation and maintenance of the system. The project has found it difficult to ascertain an accurate breakdown of the way in which revenue is allocated across departments within BCC; however can reasonably be concluded that more than 60% of the revenue is used for other municipal related services. Whilst difficult to accurately verify with the BCC the following information was captured during the BOWSER Technical Baseline 'In June 2009³, current monthly income from municipal services should have totalled in the order of US\$ 6.7 million from about 127,000 plus stands but in fact only about US\$ 0.73 million was being collected (about 11% of billings). By June 2010 this situation was somewhat improved with billing collections a little above 50%.⁴

³ "Assessment of Water and Sanitation Facilities in four urban areas of Zimbabwe: Town – Bulawayo, page 17, UNICEF/AusAID, 20 July 2009

⁴ Data provided to baseline study team by Finance Services, BCC, July 2011

14. How has the priority for, and investment in, water and sanitation services and hygiene education changed and is any of this attributable to BOWSER?

There is little doubt that the BOWSER project has demonstrated the significant impact that can be made in the functionality of water and sewerage infrastructure through the allocation of resources to water and sanitation services as well as hygiene education. Whilst the project has highlighted the importance of ring-fencing to ensure the appropriate investment in these services, it recognises that the BCC has to arrive at these policy decisions independently so as to ensure that the BCC has ownership and motivation to implement these policy decisions. It is envisaged that key messages from the PHHE campaigns to date as well as the development of the Call Centre will increase the awareness of residents and what they can reasonably expect from the BCC as rate-paying residents, which will inevitably require the BCC to ensure that priorities are aligned to these resident demands.

15. How has the capacity of civil society been increased to support their role in social accountability, facilitation and advocacy for better water, sanitation and hygiene *services*?

The project has utilised the Bulawayo Resident Associations as a mechanism to ensure that community members are provided with relevant project information and given responsibility to ensure that this is disseminated to residents. It is recognised that these groups need to be engaged further in future awareness-raising campaigns to ensure that residents are adequately informed of the rights that they hold as residents and to use as an effective way of holding the BCC and Councillors accountable.

16. How has the capacity of BCC to meet the water supply and sanitation needs of the poor and disadvantaged changed?

As the project is focussed in the high-density suburbs of the City, it is fair to assume that the needs of the poor and disadvantaged have been significantly improved as a result of the project. As with many elements of this project, the ability of the BCC to be able to continue to consider the needs of the poor will be dependent on the success of community advocacy and the policy decisions made by the BCC to prioritise services in these areas.

17. How has gender equality been addressed within BCC and in the recipient communities in the project?

The project has not made intentional attempts to ensure that gender inequalities that exist in the BCC are rectified.

18. How has institutional capacity to integrate environmental sustainability concerns, disaster risk reduction and climate change implications changed?

As mentioned above, the implementation of this project has coincided with the BCC's increased focus to work with the EMA to ensure that environmental sustainability concerns are considered in all activities. The project has continually encouraged the BCC to engage with the EMA to ensure that all activities meet the relevant standards and by-laws that exist.