Zimbabwe

WASH Sector Brief

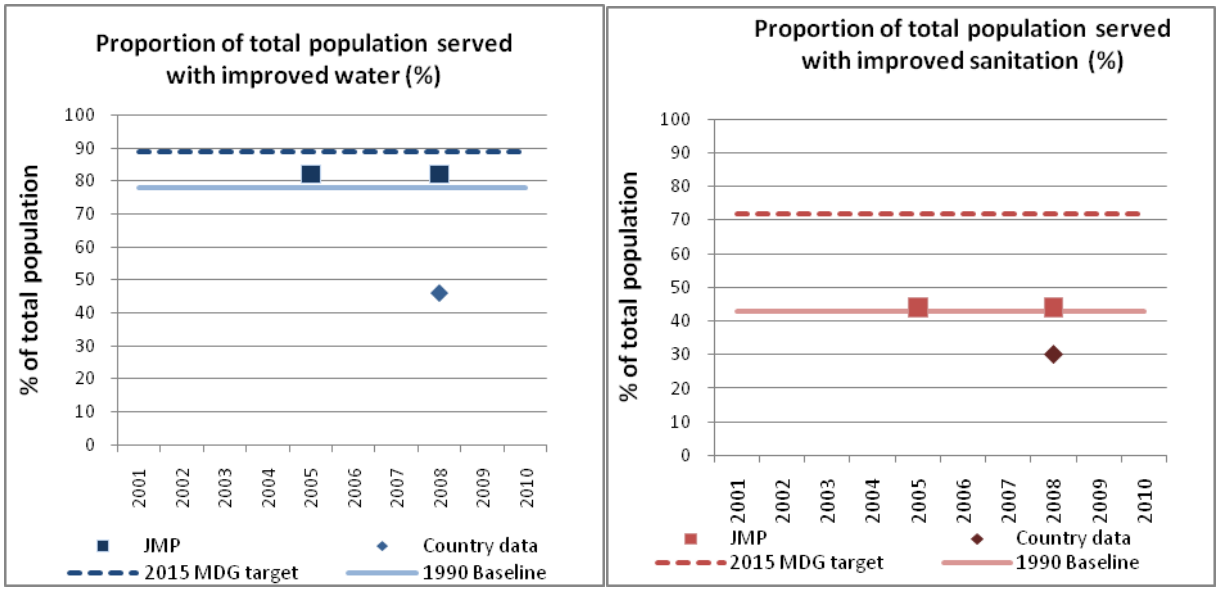
Headline issues

- Following a decade of recession and hyperinflation which saw a rapid decline in the water and sanitation sector and humanitarian crisis that evidenced a turning point in 2009, the government is re-motivated to restore the sector to the standards that made it a model for African sector development.
- Huge investments are needed to repair and rehabilitate physical infrastructures that have suffered from neglect, as well as to extend coverage.
- Institutional capacity has suffered from the exodus of skilled staff and significant under-staffing, so recruitment and training also require significant funds.
- Community education and social marketing are needed so people value and demand good WASH standards.
- While donor assistance is vitally important, care is needed in the longer term so the sector does not again become vulnerable through over reliance on government subsidies and donor finance.

Coverage and WASH related health statistics

Coverage data varies significantly depending on the source and may be unreliable. Coverage data for access to improved drinking water and sanitation from the UNICEF/WHO Joint Monitoring Program (JMP)[1] are shown in Figure 1 below, where 1990 access levels (shown as a baseline) were used to calculate the 2015 Millennium Development Goal (MDG) targets. Country data from Zimbabwean sector agencies suggest a more pessimistic situation.[2] The information is likely to be unreliable, as the Country Sector Overview (CSO) for Zimbabwe reports very weak sector monitoring and a decade of decline in the sector "the extent of which is not known".[2]

Figure 1: Access to improved water and sanitation



Source: WHO/UNICEF Joint Monitoring Program (JMP) (2010) data for 2008.[1] Country data as cited in Zimbabwe Country Sector Overview AMCOW (2010).[2]

The Zimbabwean water and sanitation sector, that had become a model of African sector development for its coverage and programmatic achievements in the two decades since independence, saw a sharp decline in services during the decade of economic recession and hyperinflation 1999-2008, culminating in a nationwide cholera epidemic in 2008-2009.[2] The political, social and economic turmoil of this period saw the deterioration of physical infrastructure as well as the institutional capacity to manage them.[2, 3, 4] The country once regarded as 'the breadbasket of Southern Africa' has since become one of the poorest in the world, with a per capita GDP of $US360 in 2008, compared to a sub-Saharan Africa average of $US1,428.[3]

The formation of the Inclusive Government in 2009 arrested the deteriorating humanitarian situation, and marked the beginning of the country's economic recovery.[5] The changed political and economic situation, together with the international humanitarian response to the cholera epidemic have catalysed a renewed prioritisation of the sector to stabilise the deterioration and restore water and sanitation services.[2,6]

While numerical estimates of coverage vary, what is clear is the great need for rehabilitation and service quality improvement. A 2004 assessment of rural water, undertaken midway in the period of decline, estimated that 75% of 47,000 hand-pumps in the country were non-functional – an estimate likely to have worsened since.[8] Services in urban settlements and growth areas consistently suffer from high levels of non-revenue water, infrastructures in disrepair, and contamination of water resources from improperly functioning sanitation systems.[2] For both urban and rural populations counted as having access to water, water quality is often poor and associated with intermittent supply and longer walking distances.[2] Water treatment is made difficult not only by dilapidated infrastructures, but intermittent electricity supply for pumping and plant operations, as well as the lack of chemicals.[2] Furthermore, the 2010 AMCOW report observes a stark disparity between urban and rural services, with rural populations making up nearly all those without access to water (possibly 98% of the national estimate), while nearly half of the rural population practices open defecation.[2]

The Zimbabwe-based Institute of Water and Sanitation Development observe a decline in social values, principles, standards and ethics amongst the general population has occurred as people have adapted to unacceptable service standards, environmental situations and social behaviours that it sees as a significant obstacle to improving the standard of water and sanitation in the country.[4,7] They note that people have devised their own coping mechanisms such as household level treatment of drinking water and waste management, lowering their WASH standards and sometimes engaging in unsafe practices, and have become accustomed to not demanding better service standards. Thus, in addition to the rehabilitation, expansion and development of infrastructure and institutional capacity, social change programs that value and demand good services are needed for improved WASH development to be sustained.

Table 1 provides a summary of Zimbabwe's WASH related health indicators. The data is the most recent available in public databases that enable comparison with other countries, showing Zimbabwe in the mid-range in Africa in 2004, however they do not capture the cholera epidemic that struck in 2008 and spread to all 10 provinces and 53 of the country's 62 districts affecting an estimated 100,000 people.[4,6] In 2010, 1000 cholera cases were reported in 19 districts, with 20 deaths – a significant improvement from 4,200 deaths in the preceding two years.[8] A very recent demographic and health survey[9] shows nearly 700 incidences of diarrhoea in children under age 5 in the representative sample of 11,000 households surveyed. The survey shows under-5 mortality rates having risen to 84 in the last 0-4 years, from 62 deaths per 1000 births 10-15 years ago.[9] The World Bank's worse estimate of 90 deaths per 1000 births published in 2009 shown below is most likely a facet of sampling methodology, but is consistent with the trend of worsened water-related health conditions.

Table 1: Summary health statistics

Infant mortality (deaths per 1000 births)[10]	90
WASH-related DALYs (% of all DALYs)[11]	5%
Total WASH related DALYs (Years)[11]	465,859
Total WASH related deaths per year[12]	12,449
WASH related proportion of deaths (%)[12]	4%

Sources: World Bank and WHO as shown in endnotes

Finance trends

Estimating the annual investment requirement for meeting the MDGs is a difficult task, given the unreliability of coverage figures and difficulties with predicting the resources available to the sector.[2] The 2010 AMCOW report nevertheless developed a funding model to estimate the annual investment required, that assumed the government's estimates of coverage for safe water and sanitation (Figure 1) and the confirmed 2009 levels of government funding allocations at the time.[2] The model showed a need for a total annual capital expenditure of $US544M and operating expenditure of $US57M for water supply, and a further $US415M for capital and $US24M for operating expenditure for sanitation. Assuming public investment for water at $US93M, with all operating costs and $US85M of capital expenditure to be met by households, the model estimates a shortfall of $US365M for required investment for water. Similar assumptions about available funds for sanitation yield an annual shortfall of $US336M.

Additional funds for the sector have been confirmed since the AMCOW report modelling, in the form of an increased budget allocation and grant assistance from specially created funds discussed later in this section, as well as a non-concessional loan from China that will fund rehabilitation of water and sewage treatment plants.[5] However the assumed contribution from households is considered very unlikely to materialise since the ability to pay has fallen with the economic collapse,[2] and even with the additional external funding, the total available financing would still be significantly lower than what is required for meeting the MDGs.

The UN-Water Global Annual Assessment of Sanitation and Drinking-Water (GLAAS)[13] reports survey respondents as confirming the view of the inadequacy of available funding, noting availability of 'less than 50% of needs' for rural water and rural sanitation, but interestingly note 'more than 75% of needs' for urban sanitation in contradiction to the AMCOW modeling, but possibly reflective of the report's assessment that the institutional framework for urban sanitation is the strongest relative to the other sub-sectors.[2] The GLAAS report has 'no information' on the adequacy of funding for urban water supply.

Although multilateral lending agencies such as the African Development Bank (AfDB) and International Monetary Fund (IMF) are currently not providing any lending to Zimbabwe because of its arrears with the bulk of external debt,[3,14] grant funding is available through various emergency and relief funds including the Fragile States Facility, the Special Relief Fund and the African Water Facility.[6] Two special funding programs for Zimbabwe have also been created with the support of international donors and NGOs including AusAID, that prioritise WASH programs: the Emergency Rehabilitation and Risk Reduction (ER&RR) program coordinated by UNICEF,[2,8] and the Zimbabwe Multi-Donor Trust Fund (the Zim-Fund) administered by the AfDB.[15] The ER&RR has provided emergency rehabilitation of critical water infrastructure, provided chemicals for treating drinking water, boreholes for urban and rural water supply, and supported training and capacity development for plant operators.[8] The newer Zim-Fund recently released its first grant of $US30M for urgent water supply and sanitation rehabilitation for six municipalities that between them carry

30% of the national population.[15, 16] The AMCOW report notes that most of the sector finance is managed by NGOs and multilateral donors, off the national budget,[2] although there is renewed interest from the Inclusive Government to address WASH with a budget allocation of $US109M to the sector in 2010, an increase of $74M from 2009.[8] Other programs have also been created to help rural areas transition from emergency to longer term development – the Protracted Recovery Program and ZIMWASH.[2]

Sector governance

Zimbabwe has a history of decentralised management since before independence, where local authorities with water and sewerage departments provided urban and town services primarily funded by revenues collected from urban consumers.[2] The recent AMCOW report provides a brief account of institutional history that is useful as background. At the national level, a National Master Plan for Rural Water Supply and Sanitation was developed shortly after independence, National Action Committee (NAC) was created as a coordinating body for the sector, and an innovative 'Integrated Rural Water Supply and Sanitation Program' (IRWSSP) was implemented, which led to a near doubling of national coverage over the next 20 years including close to 100% coverage in both water and sanitation in urban areas. The IRWSSP adopted the principle of integrating the development of water and sanitation facilities with the promotion of health and hygiene education, training and capacity building, community mobilisation and education, and establishing systems for sustainable operation and maintenance.[17] In 1999 the Zimbabwe National Water Authority (ZINWA) was established, to be responsible for national water resources planning, management and development, and a key role in urban water supply and sewerage.[17] As government financing declined, public institutions in the sector could no longer fund the activities to fulfil their responsibilities. In 2006 all urban water assets were transferred to ZINWA in an attempt at centralised management, only to be reversed two years later as infrastructures continued to deteriorate and services and institutional capacity declined.

In 2010 plans were made to restructure sector leadership to bring about a new era in sector development, to create greater clarity in sector leadership and ministerial roles and responsibilities and a coordination framework, with national level outcomes summarised below.[2]

- Overall leadership of the entire water sector is provided by the Ministry of Water Resources Development and Management (MWRDM) which chairs a redesigned NAC, responsible for sector coordination.
- MWRDM is responsible for making water resources policy, and regulatory functions implemented by ZINWA.
- The Ministry of Local Government, Rural and Urban Development hosts, establishes policy and supports the planning operations of Rural District and Urban Councils.
- The Ministry of Health and Child Welfare is responsible for rural sanitation, environmental health education and public health.
- The Ministry of the Environment has responsibility for enforcing water pollution control through the Environmental Management Agency.

Furthermore, the Water Supply and Sanitation Collaborative Council (WSSCC) reports that in 2010 a National Hygiene and Sanitation Taskforce was formed, chaired by the Ministry of Health and Child Welfare and reporting to the NAC, with the mandate to develop a strategy to address slow progress towards meeting the sanitation MDG.[17] The Institute of Water and Sanitation Development provides a range of technical training for system operators with wide ranging qualifications, from short courses to two year diploma courses.[18]

The 2010 AMCOW report highlights several institutional challenges that are still to be addressed, including establishment of an independent regulator, a single comprehensive sector policy and strategy, facilitation of greater private sector participation, improving capacity of public and private sector institutions, and strengthening citizens' voice and sector responsiveness to citizens' voice.[2] In the interest of creating a current policy, a Domestic Water Supply and Sanitation Policy prepared by the NAC in 2004 but not ratified has been reviewed with a view to revising and updating it.[2]

Subsector governance

Urban water

A recent AfDB report on Zimbabwe[18] states that major urban areas are divided into 31 administrative units including 6 cities, 9 municipalities, 13 town councils and 3 local boards. Local authorities have responsibility for urban water distribution and billing, while ZINWA is responsible for bulk water supply, except in the case of some smaller towns and settlements where ZINWA is responsible for water supply and sanitation.[18] The Ministry of Local Government, Rural and Urban Development supports local authorities with their planning operations. Councils do however need greater support with capacity development for investment planning and implementation and all associated activities.[2]

The AMCOW assessment of the country's reform progress along the service delivery pathway indicates that local councils have much to do in order to create an enabling environment with realistic policies, plans and budgets.[2] With the exception of the main cities, councils have no audited accounts or balance sheets, nor consolidated asset and location inventories. Plans for service expansion have costings that are mostly out of date and need reworking. In order for councils to become financially viable, regulations including tariff guidelines and performance benchmarks are required, that would be needed to attract new investment. The AMCOW report makes a more favourable assessment of the sub-sector's capacity for sustaining services once restored.

Urban sanitation

Institutional arrangements for urban sanitation are similar to urban water, with local councils responsible for urban sanitation in Zimbabwe, where services once had very high levels of coverage relative to other African countries, and still outperform many.[2] However, service management has been widely neglected with the exodus of skilled staff. The sector needs a strong capacity-building effort to restore the professional experts to manage and operate the network and sewage treatment plants.[2]

The 2010 AMCOW report gives an optimistic assessment of the factors that support 'developing' factors in the sector delivery path, but low scores for the 'enabling' and 'sustaining' factors on indicators such as planning and budgeting, markets and uptake. The funding model shows an annual shortfall of $US273M for urban sanitation. The report highlights that the goal of 100% coverage by piped sewerage may no longer be feasible, and more appropriate lower cost approaches need to be considered.[2]

Rural water

A number of entities are involved in rural water and sanitation service provision, with some overlapping responsibilities and lack of clarity of roles.[18] The NAC has overarching responsibility for coordination, including review and approval of all district level rural water and sanitation project proposals and plans, setting policies and standards and implementation strategies for the rural sub-sectors. Rural District Councils (RDCs) are responsible for development activities in their jurisdictions, including formulating development

plans that integrate water and sanitation services.[18] RDC projects have funding and support from the Department for Infrastructure Development, which liaises with the District Development Fund, which is responsible for supporting non-commercial water supply and research and development. In addition RDCs have access to the Rural Capital Development Fund for minor projects, and the Public Sector Investment Program for major capital investment.[18] The improvements in rural water supply achieved before 2000 were funded through bilateral aid and NGOs, coordinated by the NAC.[18]

The subsector scores poorly in the AMCOW assessment on all factors in the delivery path. The report notes a particular need for local authorities to become more autonomous and move away from the current dependence on government and donors, with consumers funding operating costs and part of capital development costs.[2] Policy development needs clarification of drilling policy to facilitate development of a domestic drilling industry. Up to date rural information is also required so repair and rehabilitation efforts can be better directed.[18]

Rural sanitation

The Ministry of Health and Child Welfare (MOHCW) has the responsibility for rural sanitation at the national level.[2] Although RDCs have responsibilities for rural sanitation, the AfDB describes this as a requirement to "ensure the right to access to basic water and sanitation services"[18] implying RDCs have no direct responsibility for service provision. With households lacking funds to have latrine pits emptied and inflation making building materials, if available, unaffordable, many rural communities moved to open defecation.[2] The decline in access levels in Zimbabwe is, however, in line with the wider trend in the region, and while substantial, is not as severe as the decline in other countries in sub-Saharan Africa.[18]

The AMCOW assessment underscores a weak context for enabling and sustaining the delivery path for rural sanitation.[2] In particular, there is minimal sector expenditure, output and no resources to provide assistance to the poor. The assessment notes the need for a specific budget line for sanitation and hygiene, and for public funding to be directed towards changing behaviour and attitudes to create demand for improved sanitation and eliminate open defecation. Furthermore, there is only one standard option for rural sanitation, the Blair ventilated improved pit toilet (BVIP), which requires a variety of construction materials that are often beyond the financial capacity of rural communities where poverty levels are high.[2,18] The AMCOW report suggests an upgradeable sequence of sanitation technologies should be made possible, so households can choose an option within their means.[2] The AfDB sees a key role for donors to apply cash transfer systems, an approach NGOs already use in parts of the rural community, to stimulate interest in the local economy for repairs and replacement of latrines.[18]

Health and hygiene

The MOHCW, through its Environmental Health Service, is responsible for promoting environmental health and hygiene nationally, and has oversight of public health.[17,18] Urban councils have similar departments.[18] The institutional arrangements have an Environmental Health Technician appointed to each ward, coordinated by an Environmental Health Officer at the district level, however the sector is seriously under-staffed with only 14% of posts filled.[18] The European Community Humanitarian Aid Office (ECHO) is financing the training of urgently needed staff.[18] Although councils are accountable under current environmental and public health legislation, monitoring and enforcement is weak.[2]

The WSSCC reports that health and hygiene is being promoted through the National Hygiene and Sanitation Task Force, with school health clubs and training for teachers as well as for community members to promote

health, and celebratory events such as Global Handwashing Day and National Sanitation Week as well as other educational programs.[17]

Climate change and water resources

Zimbabwe depends mainly on surface water resources as its geological characteristics hold relatively low groundwater potential.[18] The country is therefore heavily reliant on regular rains and is vulnerable to climate change. With a semi arid climate with variable and unpredictable rainfall and low mean annual rainfall,[18] the country's renewable water resources of less than 2 ML/population are very low (Table 2) in comparison with its neighbours Botswana, Zambia and Mozambique (which have 8-10 ML/population). Zimbabwe's overall climate vulnerability is high and expected to worsen as a consequence of climate change (Table 2) since it is expected to have significant health and economic impacts, while the vulnerability of the natural environment as measured by the Environmental Vulnerability Status is much less.

Table 2: Summary status of water resources and vulnerability

Renewable water (ML/population)[19]	1.6
Overall Climate Vulnerability factor 2010[20] (on scale of *Acute, Severe, High, Moderate, Low)*	High
Overall Climate Vulnerability Factor 2030[20] (on scale of *Acute, Severe, High, Moderate, Low)*	Acute
Environmental Vulnerability Status[21] (on scale of *Extremely vulnerable, Highly vulnerable, Vulnerable, At risk, Resilient)*	Resilient

Donor environment

The AfDB lists the main donors in Zimbabwe as the AfDB, European Union (EU), Canada, Denmark, Germany, Netherlands, Norway, Sweden, United Kingdom, United States and the World Bank, as well as UN agencies (UNDP, FAO, UNICEF, UNHCR, WFP and the Global Fund).[3] Most of the support is provided as humanitarian or transitional support which is provided via UN agencies and NGOs rather than government.[3] This includes Australia's contribution of $US14M through UNICEF for the $US23M ER&RR program.[8] An estimated $US760M is estimated to have been disbursed in 2008 and 2009, over half of which was for humanitarian assistance, and $US170M in relation to the cholera epidemic.[3] In order to ensure coordination between donor initiatives, the donor community established a Water Environmental Sanitation Working Group with leadership provided by UNICEF, which also keeps the NAC informed and promotes links with other related working groups.[18]

Sector monitoring

The 2010 AMCOW report notes that institutional arrangements for sector monitoring had been in place previous to the overall decline in the economy and sector, and has since lost significant capacity to monitor and collect up to date sector information.[2] The arrangements include:

- ZINWA - for monitoring national water resources and recording up to date information, and monitoring the other services it provides;
- The NCU and EHD (sic) are responsible for monitoring the rural sector
- The Ministry of Local Government, Rural and Urban Development - for monitoring all services managed by local authorities.[2]

The MOHCW has a role in water quality monitoring through its Environmental Health Technicians, a task impeded not only but the serious understaffing noted earlier, but also the lack of field testing kits and mobility.[18]

Sector monitoring and information systems need to be restored and updated, with modern technologies and tools for data management and analysis and processes such as annual reporting on sector progress.[2] Harmonising national sector inventories and data bases with those developed by donors and NGOs, with consistent definitions for indicators, can be mutually beneficial.[2] Government funding for recruitment and training of staff to carry out monitoring tasks is a potential bottleneck that must be overcome.[2].

The authors would like to acknowledge that this sector brief draws strongly on the recent AMCOW Country Status Overview as a recent, credible source of information against many of the areas covered.

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Contact: Kumi.Abeysuriya@uts.edu.au; Juliet.Willetts@uts.edu.au; Naomi.Carrard@uts.edu.au

Australian Government
AusAID

Institute for Sustainable Futures

UNIVERSITY OF TECHNOLOGY SYDNEY

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[20] Source: Climate Vulnerability Monitor 2010 http://daraint.org/climate-vulnerability-monitor/climate-vulnerability-monitor-2010 **.** Countries are classified according to**:** *ACUTE+***,** *ACUTE***,** *ACUTE-***,** *SEVERE+***,** *SEVERE, SEVERE-, HIGH+, HIGH, HIGH-, MODERATE, LOW.* For information on included datasets and methodology for aggregation and categorising, see http://daraint.org/wp-content/uploads/2010/12/CVM_Methodology.pdf.
[21] Source: Environmental Vulnerability Index 2004 developed by SOPAC, UNEP and partners http://www.vulnerabilityindex.net/. Countries are classified according to: *Extremely vulnerable, Highly vulnerable, Vulnerable, At risk, Resilient.*