



December 2018

enhancing access to safe water and improved sanitation services in Kenya

are we on track?

report

Contents

Introduction	3
Trends in access to water and sanitation services	5
Investment in water and sanitation services.....	10
Challenges to scaling up water and sanitation services	14
Conclusion.....	16
Recommendations	17
Notes	18

Introduction

Kenya is a water-scarce country with an estimated total renewable water resource per capita of 692m³ per year¹ against the recommended minimum of 1,000m³ per capita per year.² Kenya's renewable water resource per capita is projected to fall below the absolute water scarcity level of 500m³ per year by 2030 due to population growth.³ And poor sanitation is estimated to cost Kenya's economy Ksh27 billion annually.⁴

Adequate access to safe water and improved sanitation services is central to achievement of better health and wellbeing of Kenya's population insofar as these services facilitate prevention of waterborne diseases which in turn may reduce mortality rates and catastrophic health expenditure. Adequate availability of water is also critical for sustainable economic growth and reduction of poverty – currently estimated at 36.1% of Kenya's population⁵ – since water supports key economic activities such as agricultural, industrial and energy production (hydroelectricity). Furthermore, violent conflicts over water resources could reduce if adequate and equitable access to quality water is improved across the country.

The government's commitment to enhance access to safe water and improved sanitation services is enshrined in Article 43 of the Constitution of Kenya 2010 which recognises access to safe water and improved sanitation services as a right of every Kenyan.⁶ The national and the 47 county governments share the responsibility of facilitating access to water and sanitation services. Specifically, the national government is responsible for water resource management, whereas county governments are responsible for delivering water and sanitation services.

Kenya's Vision 2030 has an ambitious target of ensuring universal access to water and improved sanitation services by 2030. This aspiration is also reflected in the Kenya Environmental Sanitation and Hygiene Policy (KESHP) 2016–2030 that aims to ensure 100% access to improved sanitation services by 2030.⁷ The National Water Master Plan 2030 has been developed to facilitate achievement of these targets.

The Water Act 2016 provides the legal basis for regulation, management and development of water resources, as well as water and sewerage services. Nonetheless, implementation of the act has been hampered by opposition from county governments that argue that the act does not adequately reflect constitutional reforms.^{8,9}

In this report we look at the progress towards achievement of universal access to water and sanitation services (WASH) in Kenya, as well as the investments that have been made in this sector. In doing so, we analyse trends in access to WASH across counties based on the 2009 census data and the 2015/16 Kenya Integrated Household Budget Survey data. We also analyse trends in expenditure by the national government and

county governments on water and sanitation between 2014/15 and 2017/18, as well as the barriers to access to water and sanitation services.

The report begins with analysis of trends in access to water and sanitation services. Next, we analyse expenditure to water and sanitation by national and county governments, as well as access barriers. Finally, we draw conclusions and provide recommendations for improving access.

Trends in access to water and sanitation services

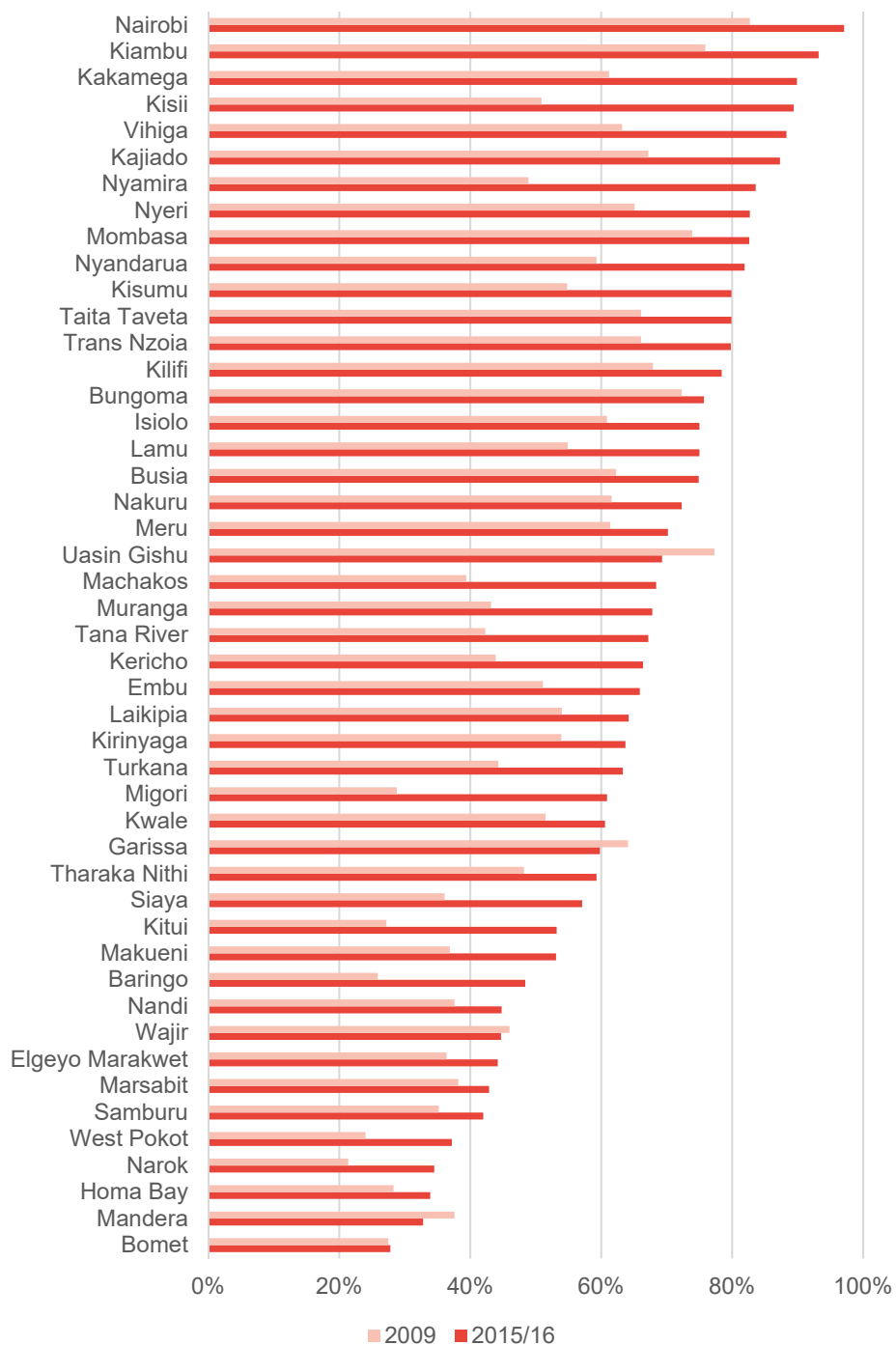
Access to water from an improved source

Access to water from an improved source¹⁰ increased substantially between 2009 and 2015/16 at the national level, but rural areas are still left behind. The proportion of households with access to water from an improved source increased from 56.1% in 2009 to 72.6% in 2015/16. In urban areas, 86.7% of households have access compared with 61.8% in rural areas.

The progress in enhancing access to water from an improved source was more pronounced in a few counties. Significant improvements were achieved in Kisii, Nyamira and Migori where access increased from 50.9% to 89.4%, 48.9% to 83.6% and 28.8% to 60.9% between 2009 and 2015/16 respectively (Figure 1). In Bomet, there was no significant improvement with access increasing by only 0.3 percentage point. What is more, the proportion of households with access reduced in Wajir, Garissa, Mandera and Uasin Gishu (Figure 1). This reduction is attributed in part to inadequacy of existing water resources¹¹, limited investment in water services due to funding constraints and effects of climate change.¹²

There are significant inequalities in access to water from an improved source, which if not addressed, may result in some counties being left behind. The 2015/16 data shows that at least 80% of households have access to water from an improved source in ten counties (Figure 1). By contrast, over 50% of households do not have access in Nandi, Wajir, Elgeyo-Marakwet, Marsabit, Samburu, West Pokot, Narok, Homa Bay, Mandera, Baringo and Bomet. Continued reliance on water from unimproved sources expose residents of these counties to the risk of contracting waterborne diseases. In addition, inadequate access to water and sanitation in schools adversely affects education outcomes, especially among girls.¹³

Figure 1: Proportion of households accessing water from an improved source, 2009 and 2015/16



Source: Development Initiatives (DI) based on 2015/16 Kenya Integrated Household Budget Survey (KIHBS) and 2009 census data obtained from the 2014 Socio-Economic Atlas.

Note: The water and sanitation data used for this analysis is also available on the [Spotlight on Kenya](http://www.data.devinit.org/spotlight-on-kenya) www.data.devinit.org/spotlight-on-kenya

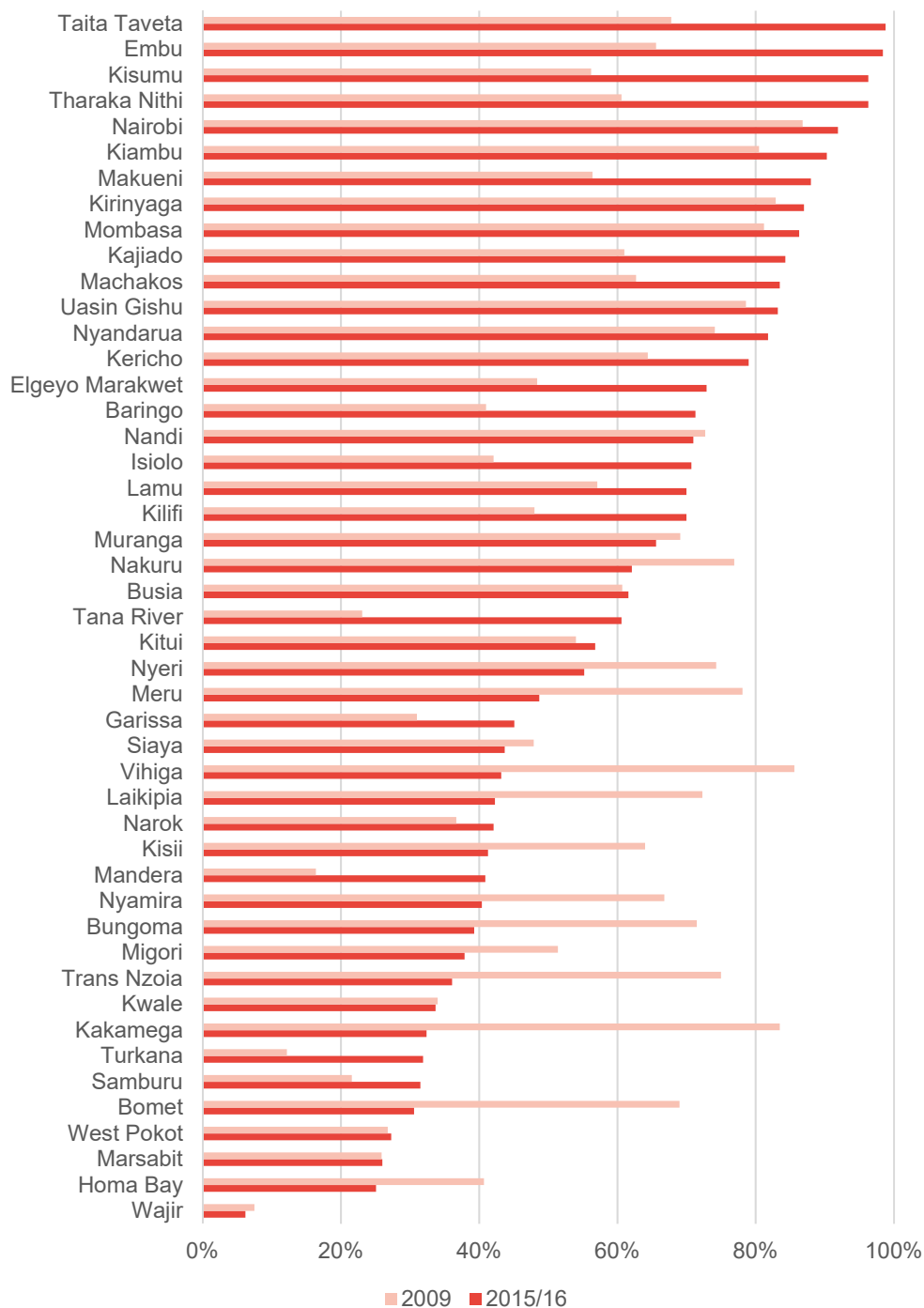
Access to improved sanitation services

A comparison of the 2009 and 2015/16 data shows that there was no significant change in the proportion of households with access to improved sanitation services over this period. In 2009, 65% of households had access to improved sanitation services and in 2015/16 the access rate was 65.2%.

However, the national averages belie the changes in the level of access to improved sanitation services across counties in the period 2009 to 2015/16. As Figure 2 illustrates, access increased in 29 counties with significant improvements being achieved in Kisumu, Tana River and Tharaka Nithi between 2009 and 2015/16. By contrast, the proportion of households with access to improved sanitation services reduced in 18 counties, with significant reductions in Kakamega, Vihiga and Trans Nzoia (Figure 2). The reductions are explained in part by slow progress in scaling up provision of sanitation services in response to increasing needs.¹⁴

Significant inequalities also exist in access to improved sanitation services. Based on the 2015/16 data, access is almost universal in Taita Taveta, Embu, Kisumu and Tharaka Nithi where over 96% of households have access. By contrast, less than 30% of households have access in West Pokot, Marsabit, Homa Bay and Wajir. In rural areas, half of households (50.8%) do not have access to improved sanitation services compared with only 13.2% in urban areas. Overall, over 50% of households in nearly half of the counties (21 counties) do not have access to improved sanitation services.

Figure 2: Proportion of households accessing improved sanitation services, 2009 and 2015/16



Source: DI based on 2009 census and 2015/16 KIHBS data.

The quality of available sanitation services is low. Nationally, 78.4% of households use toilets with no place for washing hands, creating public health risks such as increased

spread of disease-causing germs. In addition, only 10.6% of households, mostly living in urban areas, have access to sewerage services. And only 5% of sewage is effectively treated, creating both environmental and public health risks. Limited availability of quality sewerage services is attributed to inadequate identification of sewerage needs, delays in implementation of sewerage projects and poor maintenance of existing facilities.¹⁵

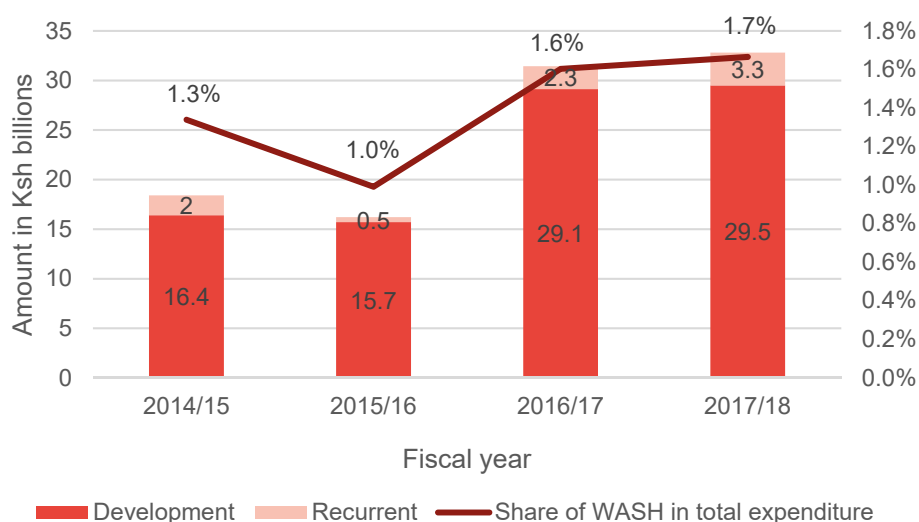
Investments in water and sanitation services

Investments by the national government

The national government invested Ksh98.8 billion in WASH between 2014/15 and 2017/18, which is equivalent to 1.4% of its total expenditure over this period. Of this, 91.8% went to development projects – mostly expansion of water infrastructure such as dams – to increase availability and access to water. In 2016/17 water and sanitation expenditure nearly doubled to Ksh31.4 billion from Ksh16.2 billion in 2015/16 to fund construction of major water infrastructure projects such as the Northern Collector Tunnel and Siyoi Muruny Dam to increase water supply in Nairobi and West Pokot.

The capacity of the Ministry of Water and Sanitation to absorb funds is improving, but more needs to be done to ensure 100% absorption rate. In 2015/16 the ministry utilised only 43.1% of funds allocated to water and sanitation. However, utilisation increased to 64.2% and 68.5% of the allocated funds in 2016/17 and 2017/18 respectively. Absorption of funds should be improved further to ensure effective implementation of water and sanitation projects.

Figure 3: National government expenditure on WASH, 2014/15 to 2017/18



Source: DI based on County Budget Implementation Review Reports for various years.

The national government has established the Water Sector Trust Fund (WSTF) to finance pro-poor WASH projects in marginalised and underserved regions in the country. WSTF cumulatively invested Ksh7.1 billion directly in pro-poor WASH projects in underserved areas in all the counties between 2005 and 2016.¹⁶ These projects enabled over five million people to access WASH over this period.

However, the impact of WSTF across counties is varied. For instance, the percentage contribution of WSTF to water coverage in Isiolo was 35.4%. However, in Wajir where access to WASH is among the lowest, the contribution of WSTF was only 0.3%. In addition, WSTF mainly relies on donor contributions which accounted for 61.2% and 62.9% of its total resources in 2015 and 2016 respectively.¹⁷ Heavy reliance on donor contributions may have negative implications for the sustainability of WSTF and the pro-poor projects that it supports.

Investments by county governments

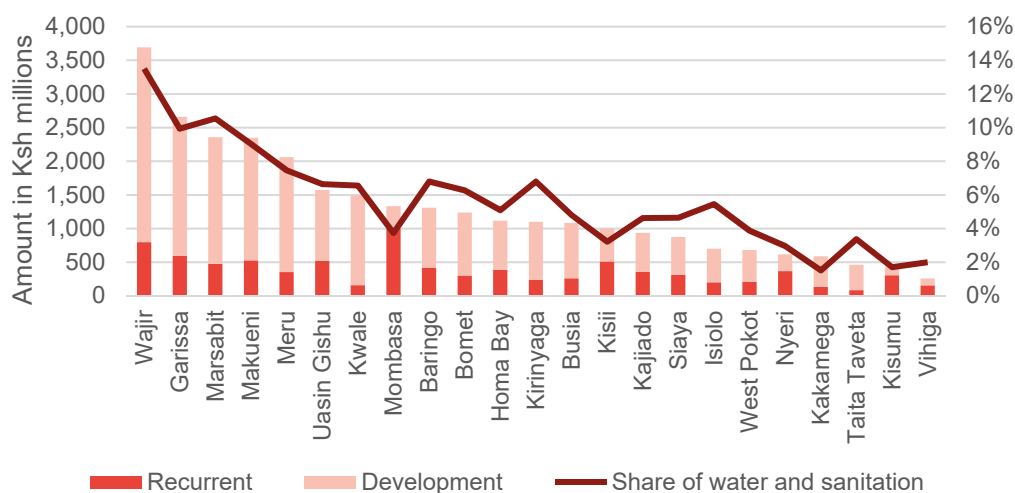
Expenditure data for water and sanitation at county level is currently available at department rather than programme level. This makes it difficult to determine the actual expenditure on water and sanitation in counties where these functions are combined with others such as agriculture or energy under one department. For this reason, we limit our analysis to 23 counties¹⁸ for which expenditure data for the water and sanitation sector is consistently available between 2014/15 and 2017/18.

The cumulative expenditure by the 23 counties in WASH amounted to Ksh29.9 billion between 2014/15 and 2017/18. 71.1% of this expenditure went to development projects to scale up access.

The combined expenditure to water and sanitation by the 23 counties increased by 19.7% to Ksh8.5 billion in 2015/16 from Ksh7.1 billion in 2014/15. However, expenditure reduced marginally by 1.8% to Ksh8.3 billion in 2016/17. In 2017/18, expenditure reduced significantly by 27.3% to Ksh6 billion. This reduction is explained in part by the limited ability of the county governments to absorb the funds earmarked for water and sanitation. For instance, in 2017/18 only 52.5% of the funds allocated to water and sanitation was absorbed compared to 70.5% in 2016/17 and 70% in 2015/16. Low absorption rate is explained by delays in disbursement of funds from the national government to counties and lengthy procurement processes.¹⁹

Water and sanitation expenditure accounted for 5.7% of the cumulative expenditure of the 23 counties for the period 2014/15 to 2017/18. As Figure 4 illustrates, the share of water and sanitation in total expenditure was higher in Wajir (13.5%), Marsabit (10.5%) and Garissa (9.9%) which are among the ten counties with the lowest access to water. These three counties were also among the five counties that had the largest expenditure on water and sanitation, which reflects their commitment to enhance access.

Figure 4: Cumulative county expenditure to water and sanitation, 2014/15 to 2017/18



Source: DI based on County Budget Implementation Review Reports.

Financing gaps in the water and sanitation sector

The government requires Ksh1.76 trillion to provide universal access to water and improved sanitation services by 2030. This consists of Ksh1.3 trillion for water supply and Ksh476.5 billion for sewerage. However, the government can finance only 43.6% and 6.5% of the cost of upscaling water supply and development of sewerage infrastructure.²⁰ This means the government is facing a resource gap of Ksh1.2 trillion which may negatively impact achievement of sustainable development goal 6, particularly target 6.1 and 6.2 which call for universal access to safe water and improved sanitation services respectively by 2030.

High levels of non-revenue water that currently stands at 42% of supplied water²¹ means that water services providers are not collecting enough revenue to sustain provision of water services, as well as to leverage commercial financing. The high level of non-revenue water is attributed to loss due to damages and illegal connections.

At the national level, borrowing to scale up access to WASH is constrained by rising concerns about the sustainability of public debt. In June 2018 this stood at Ksh5 trillion or 57.1% of gross domestic product. The ratio of debt service to revenue increased to 33.8% by end of June 2018 from 23.6% in June 2017²², meaning that about one third of national government revenues are used to repay debts.

Sidian Bank, formerly known as K-Rep Bank, and Kenya Commercial Bank are leading in provision of commercial loans to the water and sanitation sector to bridge the existing resource gap, but availability of loan facilities among water utilities is still limited.²³ Access to commercial financing for public water service providers/utilities is limited due to poor creditworthiness, delays in assessment of the water projects to be financed, the

perceived high risk in the sector and complex structuring of loans due to involvement of many actors.

Civil society organisations (CSOs) play a critical role in provision of WASH in Kenya. And their investment in the sector is expected to bridge the existing financing gap. Investment by CSOs in the water and sanitation sector is difficult to estimate due to lack of data. However, self-reports by various organisations show that Ksh6.31 billion was invested in water and sanitation by 94 CSOs between 2013/14 and 2015/16.²⁴ Over 60% of this investment went to water projects, whereas the rest went to sanitation, hygiene, institutional capacity development and policy advocacy. However, investment by CSOs is constrained by their heavy reliance on donor funding, which can be unpredictable. Furthermore, due to their financial constraints, CSOs usually focus on short-term water and sanitation projects with limited geographical coverage.

Challenges to scaling up water and sanitation services

High incidence of poverty, especially in the northern counties, prevents access to safe water and improved sanitation services. The cost of accessing water from an improved source such as piped water is a barrier to poor households where there are no pro-poor tariffs.²⁵ In addition, most poor households lack the resources to invest in improved sanitation facilities such as ventilated pit latrines. This leads to a vicious cycle where limited access to water perpetuates poverty which in turn makes it hard to access water.²⁶

Inadequate financing constrains investment in the water and sanitation sector by the national and county governments to ensure adequate access. Although expenditure to the water and sanitation sector increased in recent years at the national level and in some counties, significant resource gaps exist that prevent rapid scaling up of access. In addition, little priority has been given to investment in sanitation services, especially in rural areas.²⁷

Policy, legal and institutional frameworks for the water and sanitation sector are fragmented, leading to poor provision of services. Overlapping roles resulting from existence of several institutions including water services providers, water services boards, county governments and different national government ministries that have a mandate for water and sanitation leads to inefficiencies that undermine efforts to enhance access.²⁸ Poor regulation of faecal sludge management, ineffective coordination of the interventions of the ministries, departments and agencies with a water and sanitation mandate, and lack of technical support to county governments lead to low quality and inadequate service provision.

Effective planning and budgeting for WASH is hampered by use of outdated data. There is limited understanding of the level of water and sanitation service coverage, the cost of providing pro-poor services in marginalised areas and the amount of resources that are already available or being invested through off-budget channels in various counties. Planning based on outdated or insufficient data coupled with limited consultation of various stakeholders in decision-making means that service provision may not address the needs of the poorest and underserved populations.²⁹

Climate change is a threat to availability of water, especially in arid and semi-arid land counties.³⁰ Frequent droughts or long dry seasons often lead to water shortages. This is compounded by population growth which has contributed in part to destruction of water catchment areas through settlements and farming.

Poor planning in informal settlements where the poorest live in urban areas prevent effective development of water and sanitation infrastructure.³¹ In most informal settlements, physical plans are not implemented effectively leading to inadequate or no provision for public spaces to develop water and sanitation infrastructure such as sewerage systems. Furthermore, unclear ownership or insecure land tenure patterns prevent investment in water and sanitation facilities in informal settlements.

Conclusion

Enhancing access to safe water and improved sanitation services is important for achievement of the aspiration of the national government to reduce poverty to the lowest level possible and provide a high-quality life to all by 2030. Although significant progress was made in enhancing access to water from an improved source between 2009 and 2015/16, over 50% of households still do not have access in 11 counties.

Access to improved sanitation services remains a major development challenge in Kenya given that nearly one third of the population depends on unimproved sanitation services. Whereas the level of access to improved sanitation services increased in 29 counties between 2009 and 2015/16, the proportion of households with access reduced in 18 counties over this period. This may result in some counties being left behind.

Expenditure to the water and sanitation sector has increased in recent years at the national level and in some counties. However, Kenya is facing a huge resource gap (Ksh1.2 trillion) that may negatively affect its ability to achieve universal access to safe water and improved sanitation services by 2030. In addition, investment in pro-poor water and sanitation projects is still heavily reliant on donor contributions.

Apart from resource gaps, scaling up access to safe water and improved sanitation services is constrained by high incidence of poverty, fragmented legal and policy frameworks, inadequate data for planning and budgeting and climate change which affects availability of water. Addressing these challenges has to be prioritised to ensure adequate access for all by 2030.

Recommendations

Resource gaps in the water and sanitation sector should be addressed by tapping into alternative funding streams including official development assistance, blended finance and commercial financing. Access to commercial financing by public water services providers could be enhanced through better investment planning, adoption of tariff structures that allow greater retention of funds for loan repayment and strengthening the governance of water services providers to ensure their reliability as borrowers.

Investment in pro-poor water and sanitation projects by the national government should be enhanced to reduce reliance on donor funding. This calls for improved budgetary allocations by the national government to WSTF to ensure sustainable delivery of pro-poor water and sanitation projects across the country. In addition, county governments should fast track development of tariff and pricing policies that facilitate financial sustainability of WASH while considering the limited ability of the poorest households to pay.

The policy and regulatory framework for the water and sanitation sector should be strengthened through development of a coherent regulatory framework that covers not only public but also small-scale private sanitation services providers who are currently not adequately regulated. Additionally, a coordination framework should be established at the national level to eliminate duplication of roles.

Investment in regular data collection and analysis at national and county level has to be prioritised to ensure effective planning and budgeting for water and sanitation services. Expansion of existing initiatives such as the MajiData portal³² built by the Water Services Regulatory Board to include more indicators such as up-to-date data on the proportion of households with access to improved sanitation services could help county governments to plan for better service delivery. Furthermore, detailed expenditure reporting by county governments could improve transparency and monitoring of the impacts of public investments on access to water and sanitation services.

Finally, better implementation of physical plans in informal settlements should be prioritised to facilitate development of water and sanitation infrastructure. This includes guaranteeing land ownership through titling or formal lease agreements to facilitate development of water and sanitation facilities.

Notes

- ¹ Food and Agriculture Organization of the United Nations. AQUASTAT Country Information on Water Resources. Available at www.fao.org/nr/water/aquastat/countries_regions/KEN/
- ² www.un.org/waterforlifedecade/scarcity.shtml
- ³ www.fao.org/nr/water/aquastat/countries_regions/KEN/
- ⁴ WSP/World Bank, 2012. Economic impacts of poor sanitation in Africa. Available at: www.wsp.org/content/africa-economic-impacts-sanitation
- ⁵ Kenya Integrated Household Budget Survey (KIHBS) 2015/16. Available at: www.knbs.or.ke/publications/
- ⁶ Constitution of Kenya 2010. Available at: www.kenyalaw.org/lex/actview.xql?actid=Const2010
- ⁷ Kenya Environmental Sanitation and Hygiene Policy 2016–2030. Available at: <https://afyauzazi.org/resources/kenya-environmental-sanitation-and-hygiene-policy-2016-%E2%80%932030>
- ⁸ Mansour, G., Oyaya, C. and Owor, M., 2017. Situation analysis of the urban sanitation sector in Kenya. Available at: www.wsup.com/insights/situation-analysis-of-the-urban-sanitation-sector-in-kenya/
- ⁹ County governments argue that the Act excludes them in the performance of functions related to provision of water and sanitation services and diverts funds meant for county governments to national government institutions.
- ¹⁰ Access to water from an improved source refers to households that obtain water from the following sources: piped water, borehole with pump, protected spring, protected well, rain water and bottled water. See www.knbs.or.ke/download/basic-report/
- ¹¹ <http://kebudgetdocs.ipfkenya.or.ke/county.php?c=44&y=2013-2014>
- ¹² <http://kebudgetdocs.ipfkenya.or.ke/county.php?c=24&y=2013-2014>
- ¹³ Kenya National Human Development Report 2013. Available at: www.ke.undp.org/content/kenya/en/home/library/HDRs.html
- ¹⁴ <https://afyauzazi.org/resources/kenya-environmental-sanitation-and-hygiene-policy-2016-%E2%80%932030>
- ¹⁵ Office of the Auditor-General, 2018. Performance audit report on provision of sewerage in major towns in Kenya: A case study of Nairobi City. Available at: <http://nairobiassembly.go.ke/papers-laid/>
- ¹⁶ Financial support for improved access to water and sanitation 2005–2016. Available at: www.waterfund.go.ke/downloads
- ¹⁷ Report of the Auditor General on the financial statements of Water Services Trust Fund. Available at: www.oagkenya.go.ke/index.php/reports/cat_view/2-reports/9-national-government-and-state-corporations/8-state-corporations/252-2015-2016?start=200
- ¹⁸ See Figure 4.
- ¹⁹ Pro-poor analysis of Kenya's 2018/19 budget estimates. Available at: www.devinit.org/post/pro-poor-analysis-kenyas-201819-budget-estimates/
- ²⁰ National Water Master Plan 2013. Available at: <https://wasreb.go.ke/national-water-master-plan-2030/>
- ²¹ Non-revenue water refers to the difference between amount of water put into the distribution system and the amount of water billed as authorised consumption. See <http://majidata.go.ke/maps-data/>
- ²² Based on 2018 annual public debt management report.
- ²³ Claasen, F. 2016. Commercial finance for water service providers in Kenya. Available at: www.aidenvironment.org/news/commercial-finance-for-water-service-providers-in-kenya-opportunity-or-complexity/
- ²⁴ CSO annual water and sanitation performance Kenya reports for various years published by KEWASNET, CEWAS and WIN. Available at: <https://kewasnet.co.ke/index.php/resources/kewasnet-publications/category/9-cso-reports>
- ²⁵ APHRC, 2012. Population and health dynamics in Nairobi's informal settlements. Available at: <http://aphrc.org/post/publications/population-and-health-dynamics-in-nairobis-informal-settlements-report-of-the-nairobi-cross-sectional-slums-survey-ncss-2012>

- ²⁶ World Bank, 2017. Reducing inequalities in water supply, sanitation, and hygiene in the era of the sustainable development goals: Synthesis report of the WASH poverty diagnostic initiative. Available at: <http://documents.worldbank.org/curated/en/554021528950823000/Reducing-Inequalities-in-Water-Supply-Sanitation-and-Hygiene-in-the-Era-of-the-Sustainable-Development-Goals>
- ²⁷ www.wsup.com/insights/situation-analysis-of-the-urban-sanitation-sector-in-kenya/
- ²⁸ www.wsup.com/insights/situation-analysis-of-the-urban-sanitation-sector-in-kenya/
- ²⁹ www.wsup.com/insights/situation-analysis-of-the-urban-sanitation-sector-in-kenya/
- ³⁰ Government of Kenya, 2010. National climate change response strategy executive brief. Available at: www.environment.go.ke/
- ³¹ <http://aphrc.org/post/publications/population-and-health-dynamics-in-nairobis-informal-settlements-report-of-the-nairobi-cross-sectional-slums-survey-ncss-2012>
- ³² <http://majidata.go.ke/maps-data/>

Development Initiatives (DI) is an independent international development organisation working on the use of data to drive poverty eradication and sustainable development. Our vision is a world without poverty that invests in human security and where everyone shares the benefits of opportunity and growth.

We work to ensure that decisions about the allocation of finance and resources result in an end to poverty, increase the resilience of the world's most vulnerable people, and ensure no one is left behind.

Copyright © 2018 Development Initiatives
We encourage dissemination of our work provided a reference is included.

Contact
Boniface Owino
Analyst
Tel. +254 736 198027/Email: boniface.owino@devinit.org

To find out more about our work visit:

www.devinit.org
Twitter: [@devinitorg](https://twitter.com/devinitorg)
Email: info@devinit.org

Development Initiatives is the trading name of Development Initiatives Poverty Research Ltd, registered in England and Wales, Company No. 06368740, and DI International Ltd, registered in England and Wales, Company No. 5802543. Registered Office: North Quay House, Quay Side, Temple Back, Bristol, BS1 6FL, UK.

UK OFFICE

Development Initiatives
North Quay House
Quay Side, Temple Back
Bristol, BS1 6FL, UK
+44 (0) 1179 272 505

KENYA OFFICE

Development Initiatives
Shelter Afrique Building
4th Floor, Mamlaka Road
Nairobi, Kenya
PO Box 102802-00101
+254 (0) 20 272 5346

DEVELOPMENT RESEARCH AND TRAINING (DRT)

Ggaba Road, Mutesasira
Zone, Kansanga
PO Box 22459
Kampala, Uganda
+256 (0) 312 – 263629/30
+256 (0) 414 – 269495
www.drt-ug.org

US OFFICE

Development Initiatives
1110 Vermont Ave NW,
Suite 500, Washington DC
20005, US