

Life-cycle costs approach for WASH services that last



Life-Cycle Costs in Ghana

Briefing Note 5: Access to sanitation services

August 2012

WASHCost project partners have developed a methodology for costing sustainable water, sanitation and hygiene (WASH) services by assessing life-cycle costs and comparing them against levels of service provided. The approach has been tested in Ghana, Burkina Faso, Mozambique and Andhra Pradesh (India). The aim of the life-cycle costs approach is to catalyse learning to improve the quality, targeting and cost effectiveness of service delivery.

In Ghana, Kwame Nkrumah University of Science and Technology (KNUST), IRC International Water and Sanitation Centre, and Community Water and Sanitation Agency (CWSA) are using the WASHCost Life-Cycle Costs Approach (LCCA) to identify the true costs of providing sustainable WASH services in rural and peri-urban areas. These series of briefing notes have been developed to explain the methodology, share the findings, and draw out the implications for policy and practice in Ghana's WASH sector.

This briefing note No. 5 presents the findings on **access to sanitation services** and draws out the implications for policy and practice in Ghana's WASH sector.

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Front page photo

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WASHCost is a five year action research project investigating the cost of providing water, sanitation and hygiene services to rural and peri-urban communities in Ghana, Burkina-Faso, Mozambique and India (Andhra Pradesh). The objectives of collecting and disaggregating the cost data over the full life-cycle of WASH services are able to analyse cost per infrastructure and service level, and to better understand the cost drivers and through this understanding to enable more cost effective and equitable service delivery. WASHCost is focused on exploring and sharing an understanding of the true cost of sustainable services (see www.washcost.info).

Life cycle costs in Ghana:

Access to sanitation services

WASHCost briefing note no. 5 presents findings on access to sanitation services in rural and small towns in Ghana using a life-cycle costs approach developed by WASHCost for the Water, Sanitation and Hygiene (WASH) sector. The briefing note is based on a survey conducted by WASHCost Project in Ghana in three districts in Northern, Ashanti and Volta regions.

Introduction

Access to sanitation in Ghana is low and progress to achieve the national sanitation target is off-track. According to the data compiled by the WHO/UNICEF Joint Monitoring Program (JMP), sanitation coverage in Ghana in 2010 was 14% (excluding shared latrines) and 72 % when shared latrines are included. In rural areas, access was even lower and disaggregated as follows: improved sanitation facilities (8%), shared latrines (43%), other unimproved latrines (16%) and open defecation (33%).

The impact of poor sanitation is felt in the health sector where over 80% of all out patient department (OPD) cases in the health facilities in Ghana are water and sanitation related¹. A study by the Water and Sanitation programme of the World bank on the economics of sanitation initiatives revealed that costs of poor sanitation in Ghana due to mortality, access time, productivity losses and health care are about US\$ 290 million every year, which is equivalent to US \$ 12 per person or 1.6 % GDP².

The method used by JMP for measuring sanitation coverage in Ghana has limitations as it does not cover all the elements of the sanitation chain: containment, collection, treatment and final disposal. The JMP³ framework for measuring sanitation distinguishes between 'improved' and 'unimproved' sanitation facilities. Thus, the emphasis is on the 'containment' part of the sanitation service delivery chain rather than on collection, treatment and final disposal.

As a result of this limitation, a new framework for measuring sanitation services levels was developed by the WASHCost project as part of its life-cycle costs approach for the Water, Sanitation and Hygiene (WASH) sector. This Briefing Note presents findings relating to sanitation service levels in rural and small town communities in Ghana.

Sanitation service levels framework

An acceptable sanitation service should ensure sustainable access to safe, hygienic and convenient facilities and services for excreta disposal that provide privacy and dignity and ensure environmental protection. The WASHCost sanitation service framework goes beyond measuring sanitation technology type to include accessibility, use, reliability of operations and maintenance and environmental protection. The parameters and indicators used for measuring the sanitation service levels are summarised in Table 1 below.

Table 1: WASHCost sanitation service parameters and indicators

Parameters	Key indicators
Accessibility	Number of toilets per household Distance of toilets from households
Use	Use by all members of the household
Reliability (Operations and Maintenance)	Household maintenance Operation and maintenance support service available
Environmental Protection	Toilets constructed at least 15 m from water sources Safe re-use Safe disposal

¹ Government of Ghana/Ministry of Water Resources Works and Housing – A WSMP Brief, August 2008.

² WSP – Economic impacts of poor sanitation in Africa: Ghana. March 2012.

³ WHO/UNICEF Joint Monitoring Programme (2008).

Based on these parameters and indicators, a set of sanitation service levels were developed by WASHCost in Ghana based on the national sanitation norms. The result is as shown in Table 2, where all the parameters are considered as being equally important.

Table 2: WASHCost sanitation service levels with detail indicators per services parameter

Service level	Accessibility	Use	Reliability (O&M)	Environmental Protection
Improved	Each family dwelling has one or more toilets in the compound Easy access for all family dwellings.	Facilities used by all household members.	Regular or routine operation and maintenance (including pit emptying) Service requiring minimal effort, Evidence of care and cleaning of toilet.	Non problematic environmental impact/safe disposal and re-use of safe by-products
Basic	Cement or impermeable slab at national norm distance from households (per household or shared)	Facilities used use by some household members	Unreliable operation and maintenance (including pit emptying) Service requiring high level of user effort, Evidence of care and cleaning of toilet.	Non problematic environmental impact/safe disposal.
Limited	Platform without impermeable slab separating faeces from users.	No or insufficient use	No operation and maintenance (e.g. pit emptying) taking place and no evidence of cleaning or care for the toilet	Significant environmental pollution, increasing with increased population density
No service	No separation between user and faeces, e.g. Open defecation.			

Results on rural sanitation services

The survey covered a total of 1,273 households in 31 rural communities (1,032 households) and 3 small towns (241 households). The results are shown in Table 3 below.

Table 3: Sanitation service levels of rural communities

Districts	No. of communities	Respondents (N)	Basic	Limited	No Service
Bosomtwe	10	488	15%	66%	19%
East Gonja	15	153	0%	54%	46%
Ketu South	6	391	5%	65%	30%
Overall	31	1,032	9%	64%	27%

From table 3, only 9% of the rural inhabitants in the 31 communities are receiving an acceptable sanitation service level (basic) which is comparable to the JMP figure of 8% national rural sanitation coverage. However, there are clear disparities among the districts under consideration. While Bosomtwe district in the Ashanti region has a relatively high proportion of inhabitants (15%) receiving acceptable service, Ketu South district (5%) and East Gonja district (0%) are well below the national rural coverage. Generally, the majority of the respondents are receiving limited and no sanitation service due to predominant use of shared latrines (39%) (neighbour and public) and open defecation (36%) use.

Results on small towns sanitation services

The results of sanitation service levels in the four small towns are shown in the Table 4 below.

Table 4: Small towns' sanitation service levels

Small towns	Districts	Respondents (N)	Service levels		
			Basic	Limited	No Service
Kuntenase	Bosomtwe	132	45%	38%	17%
Kpandai/Bakamba ⁴	East Gonja	30	3%	23%	73%
Akame-Kpogedi	Ketu South	79	0%	22%	78%
Overall		241	25%	31%	44%

Although the overall average coverage is higher for the small towns, the results in Table 4 show disparities across the small towns similar to those found for the rural areas. Kuntenase small town of the Bosomtwe district in Ashanti has the highest number of respondents receiving an acceptable sanitation service, which is about three times the national coverage, while the other two small towns (Kpandai/Bakamba and Akame-Kpogedi) have very low coverage. Both Akame-Kpogedi and Bakamba/Kpandai have, in practice, settings similar to rural communities even though they are classified small towns.

Conclusions and emerging questions for policy

A new framework for measuring sanitation service levels has been successfully used in three districts in Ghana to measure sanitation service levels based on accessibility, use, reliability and environmental protection. The application of the sanitation service framework in the rural areas reveals a wide variation across the districts with basic sanitation service coverage per district in a range of 0-15%. The overall sanitation service level is comparable to the WHO/UNICEF JMP coverage figure for Ghana. The results for three small towns in the three districts reveal a wide variation across the districts with basic sanitation service level per district in a range of 0 – 45 %. The new framework therefore provides insight into the sanitation service levels received by inhabitants. The detailed information on access, use, reliability and environmental protection is useful for informing the design of better service to improve sanitation service delivery compared to the conventional coverage statistics based on improved and unimproved technologies.

The national data collection tools used for measuring sanitation coverage do not currently cover all the parameters needed for measuring sanitation service. Therefore, an adaptation of these tools with required sanitation service level framework to be mainstreamed in Ghana. Furthermore, the national standards for accessibility, use, reliability and environmental protection would have to be clarified by the national agencies such as the Environmental Health and Sanitation Directorate (EHSD) of the Ministry of Local Government and Rural Development (MLGRD) and Community Water and Sanitation Agency (CWSA) to allow replication and scaling-up of the sanitation service levels

⁴ These two small towns are now under the new district Kpandai which is carved out of East Gonja



Plate 1: Typical sanitation facilities identified in rural communities



Plate 2: Typical sanitation facilities identified in the small towns

WASHCost briefing note series

Briefing notes relating to survey based work in Bosomtwe, Ketu South and East Gonja

Briefing note 1: Background and Methodology

Briefing note 2: Post-construction costs of water point-systems

Briefing note 3: Costs of rural and small town sanitation services

Briefing note 4: Access to services in rural areas and small towns

Briefing note 5: Access to sanitation services

Briefing note 6: Functionality of rural water point-systems

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Briefing notes from desk or case study based work:

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Briefing note 10: Case study of Oyibi multi-village scheme

Briefing note 11: Cost drivers capital investment in small-town pipe schemes

Briefing note 12: Direct support costs to rural WASH service provision

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