



# Sanitation

## WATER AND DEVELOPMENT STRATEGY Implementation Brief

July 2016

### **GOAL OF USAID WATER AND DEVELOPMENT STRATEGY 2013-2018:**

To save lives and advance development through improvements in water, sanitation, and hygiene; and through the sound management and use of water for food security.

### **I. Introduction**

Improving sanitation can have a significant impact on health, the economy, personal security, and dignity, especially for women and girls. Investments in sanitation reduce health care costs and boost productivity, as time available for work and school increases.

Despite these compelling benefits, significant progress in improving sanitation has not occurred. The Millennium Development Goal (MDG) 7c of halving the number of people without access to improved sanitation was not met.<sup>1</sup> The slow progress in sanitation is related to some daunting challenges. Sanitation is expensive, often overlooked, requires complex systems and infrastructure, and in many cultures is considered taboo. Sanitation suffers from a lack of political prioritization, particularly when compared with drinking water.

Women and girls are disproportionately burdened by the lack of access to sanitation. They face risks of sexual and physical violence when they have to travel long distances to sanitation facilities. Girls' full engagement at school and work is at risk when proper facilities are lacking. Despite having primary responsibility for caring for children and the elderly, women rarely have a voice in sanitation decisions.

Sanitation is a top priority for the global water, sanitation, and hygiene (WASH) community and the U.S. Agency for International Development (USAID). Strategic Objective 1 of the USAID Water and Development Strategy seeks to *improve health outcomes through the provision of sustainable WASH services*. Improvement in sanitation is a key intermediate result (IRI.2) in the Strategy, and is critical to achieving overall objectives of saving lives and advancing development through improvements in health.

#### **Global Sanitation: Key Facts**

- **2.4 Billion** – People still lacking access to basic sanitation, globally.
- **1 Billion** – People still lacking any sanitation facility, and instead practice open defecation.
- **\$5** – Estimated economic gain for every **\$1** spent on improved sanitation.

Sources: UNICEF/WHO; World Bank – Water and Sanitation Programme

<sup>1</sup> The MDGs used the term "improved" to describe what is now known as "basic" sanitation under the Sustainable Development Goals (SDGs). A basic sanitation service, as defined by the WHO/UNICEF Joint Monitoring Programme (JMP), is one that hygienically separates human excreta from human contact.

## II. Background

### A. Benefits of Basic Sanitation

#### *Health Benefits*

Investments in sanitation play a critical role in the reduction of diarrheal disease, which remains the second leading cause of death for children globally. In 2015, diarrhea accounted for 8 percent of under-5 child deaths globally, or about 531,000 deaths annually (UN IGME, 2015). As shown in the F Diagram, adequate sanitation is a primary protective barrier to fecal-oral disease transmission (Figure 1).

Proven sanitation interventions can reduce the incidence of diarrhea by 30 to 40 percent (Cairncross et al., 2010). Poor sanitation is also linked to early childhood stunting and delayed mental and physical development, both of which can have significant lifelong effects (Merchant et al., 2003).

#### *Economic Benefits*

Sanitation has a substantial impact on local and national economies through its effects on productivity and healthcare costs due to sickness and premature deaths, costs of water treatment due to inadequate sanitation, and loss of tourism due to inadequate sanitation facilities. Globally, the cost of inadequate sanitation is more than \$260 billion per year (WSP, 2013). On average, investment in sanitation yields economic benefits of more than \$5 for every \$1 invested (WSP, 2013). Sanitation is one of the most cost-effective interventions, estimated at about \$11/Disability Adjusted Life Year, which is three to five times less expensive than health interventions for diseases such as malaria, HIV/AIDS, and tuberculosis (Jamison et al., 2006).

#### *Social Benefits*

Sanitation is strongly linked with social measures that are difficult to quantify, such as dignity, security, and equity. For instance, the presence of safe and adequate school sanitation is linked to continued school attendance for girls, particularly as they reach puberty and menstrual hygiene management becomes important. Improved sanitation is associated with increased personal security and decreased violence affecting vulnerable women, children, and girls who are forced to travel long distances or to unsecure areas to urinate or defecate.

The full benefits of sanitation cannot be realized without good hygiene. Of the range of hygiene behaviors considered important for health, handwashing with soap was identified as a top priority in all settings. Menstrual hygiene management was also identified as a priority for improving the health, welfare, and dignity of women and girls (WHO/UNICEF, 2015a).

### B. Challenges to Sanitation Improvements

Sanitation combines the most private human behaviors with the most public of impacts. Beyond the requirement for both individual and collective action to achieve progress, sanitation is hampered by tough challenges. Sanitation suffers from a lack of political prioritization, particularly when compared to water. The weak demand for sanitation extends from the ministerial level to individuals and households, where other basic services are typically prioritized above sanitation.

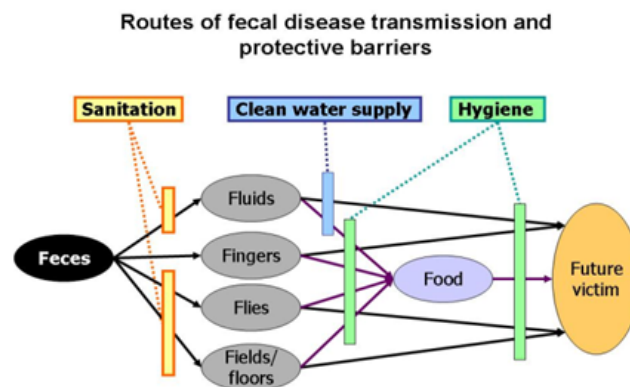


Figure 1: The F Diagram. Sanitation is the primary protective barrier to fecal transmission.

Sanitation progress is also slowed by unclear roles and responsibilities, often spread among several institutions and ministries, making coordination and accountability difficult. It also demands a diverse set of skills and experience encompassing engineering and construction, business and marketing, institution building, and behavior change, which are often limited and dispersed in targeted countries.

Progress in sanitation coverage is also slowed by the popular desire for sewer systems, which are expensive and difficult to build and maintain, and often out of reach for many countries due to limited financial and technical capacity. They are only appropriate for high density areas where sanitation access is typically higher and people are wealthier. Best practice in sanitation has now shifted consideration to an array of sanitation services, including on-site sanitation facilities (non-sewered) and fecal sludge management, which offer plausible alternatives to traditional sewer systems.

### The Sustainable Development Goals

With the adoption of the Sustainable Development Goal (SDG) Target 6.2, the global community renewed the commitment to, *by 2030, ensure access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations*. SDG Target 6.2 indicators continue the focus on access to WASH at the household level. However, WASH is also included under SDG Target 4.a, which acknowledges the need for schools to have sanitation and handwashing facilities. Despite not having specific SDG indicators, future global monitoring will also include WASH at schools and health care facilities. Links to sanitation can also be found in SDG Targets 6.6 (reducing untreated wastewater and the open dumping of sludge), 6.a (increasing international cooperation and capacity building in wastewater programs), and 6.b (strengthening participation of local communities in sanitation management).

### Sanitation Service Ladder

According to the World Health Organization (WHO)/UNICEF Joint Monitoring Programme (JMP), which monitors progress in water and sanitation against the SDGs, basic sanitation service, once known as improved sanitation, is defined as any facility (latrine or toilet) that includes a raised, cleanable platform that hygienically prevents human contact with human waste. Basic sanitation service includes: flush or pour flush facilities connected to a piped sewer system, septic system or pit latrine; pit latrines with slabs; composting toilets; or ventilated improved pit latrines. A facility that is shared by two or more households (communal, public, or institutional latrine) is not considered to be basic and is referred to as shared (WHO/UNICEF, 2015b). A new addition to the sanitation ladder is the establishment of a higher level of service called safely managed sanitation services. Safely managed sanitation services are defined as basic sanitation facilities with safe fecal sludge management, where excreta are safely disposed in-situ (typically for rural or areas with low population density) or transported and treated off-site (typically for institutions, urban, or densely populated areas).

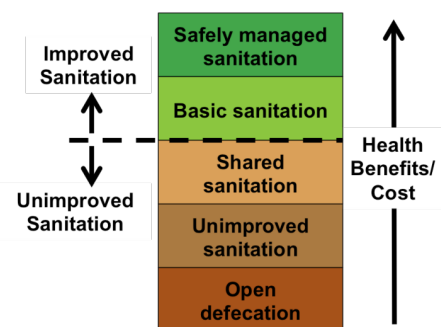


Figure 2: Sanitation Service Ladder

The relationship between sanitation options with different costs and health outcomes is described in the “Sanitation Service Ladder,” shown in Figure 2. As a household moves away from open defecation toward basic sanitation service, both cost and health benefits increase. Note that even when households are unable to achieve basic sanitation, eliminating the practice of open defecation in the community can still have a significant impact on health (Spears, 2013).

In situations where space is limited, property rights are unclear, and/or poverty limits the ability to construct a household facility, or when an individual is not near his or her home, sanitation options include: communal sanitation facilities, defined as a facility shared among two or more closely linked

households such as a compound; public sanitation facilities located in densely populated areas, markets, transport hubs, or intersections; and institutional sanitation facilities such as those available in schools, health facilities, and the workplace.

### III. Best Practices and Useful Tools for Sanitation Programming

#### A. Sanitation Service Chain

Recognizing that sanitation is more than just toilets, USAID focuses on the entire sanitation service chain, from containment at defecation to safe final disposal (Figure 3). While facilitating access to and correct use of basic sanitation is a critical first step in separating humans from feces, the management of this waste after containment is also important. Safe services at every step in the service chain are vital to reducing pathogens in the environment and protecting human health. This is particularly important in urban or densely populated areas where it is unlikely waste can be safely and permanently contained on-site, as is common in rural areas. Context can vary widely and the resulting sanitation service chain varies accordingly. Sanitation technologies may combine steps; e.g., sewerage systems combine storage and transport with their piping and pumping systems. In USAID’s priority countries, sewerage is relatively rare, with the most common sanitation services including on-site facilities (pit latrines, septic tanks, etc.) in both urban and rural areas; and emptying and treatment services in urban or densely populated areas.

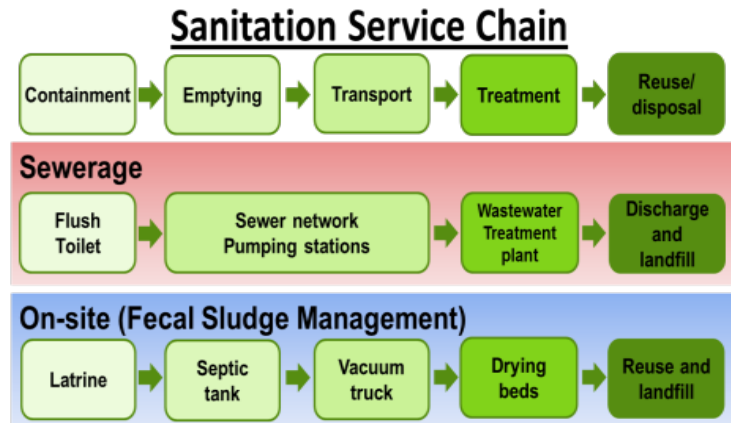


Figure 3: The sanitation service chain is the entire continuum of sanitation services, from initial containment through final reuse and/or disposal.

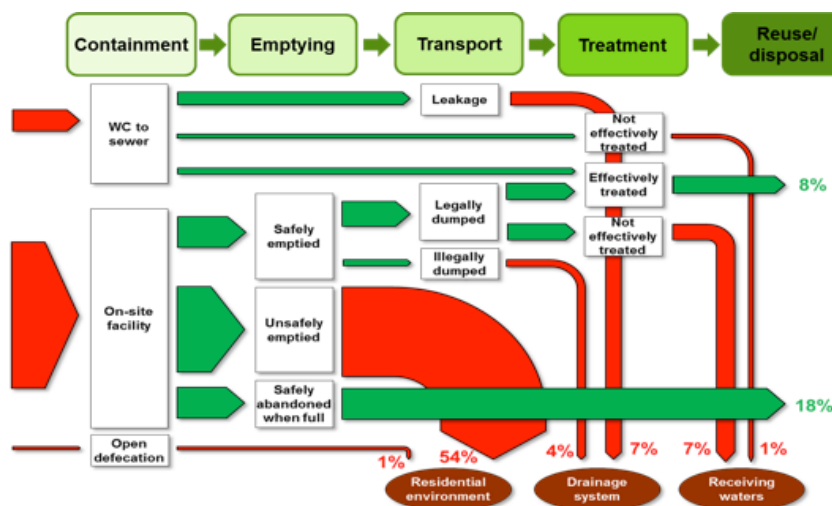


Figure 4: Fecal waste flows for Maputo, Mozambique (WSP, 2014).

Urban or densely populated areas may have multiple, simultaneous or interrelated chains of sanitation services operating at any given time, although rarely are all excreta waste streams adequately managed to protect human and environmental health. This is especially true in the developing world where a majority of fecal waste pollutes residential

environments, drainage systems, or surface

water. For example, in a 12-city study led by the World Bank Water and Sanitation Program (WSP), on average only 22 percent of on-site sanitation facilities were safely managed. Figure 4 shows a fecal flow diagram (FFD) for Maputo, Mozambique. The FFD is a powerful visualization tool to illustrate where the sanitation service chain is breaking down in a specific city (WSP, 2014).

## B. Service Delivery Approach and Sustainability

Tools such as the FFD provide a simple visualization of the fecal flows and sanitation services within a specific geography and population. However, to fully understand the system in which sanitation improvements can be sustained, it is helpful to apply a service delivery approach. A service delivery approach is based on the need to dynamically manage software (capacity building, technical assistance, behavior change) and hardware (construction of toilets and sewers, supply chains) to deliver services over time, rather than just statically providing finance and hardware.

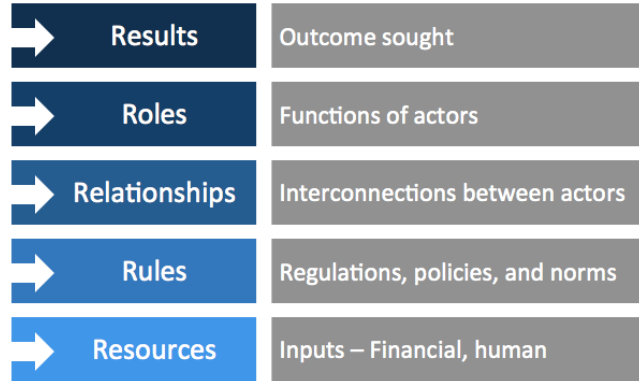


Figure 5: The “Five Rs” of USAID’s Local Systems Framework.

The “Five Rs” of USAID’s Local Systems Framework provide a structure for defining the components needed for sustainable service delivery and identifying strengths and weaknesses of an existing system (Figure 5). These components include the desired result (i.e., a fully functional sanitation service delivery system) and the related roles, relationships, rules, and resources needed to achieve that result. The Five Rs enable the focus of analysis to be on the system as a whole, rather than on a single actor or element. The Five Rs can be used to develop a graphic depicting service delivery model(s). The service delivery model describes the practical implementation of service provision by defining

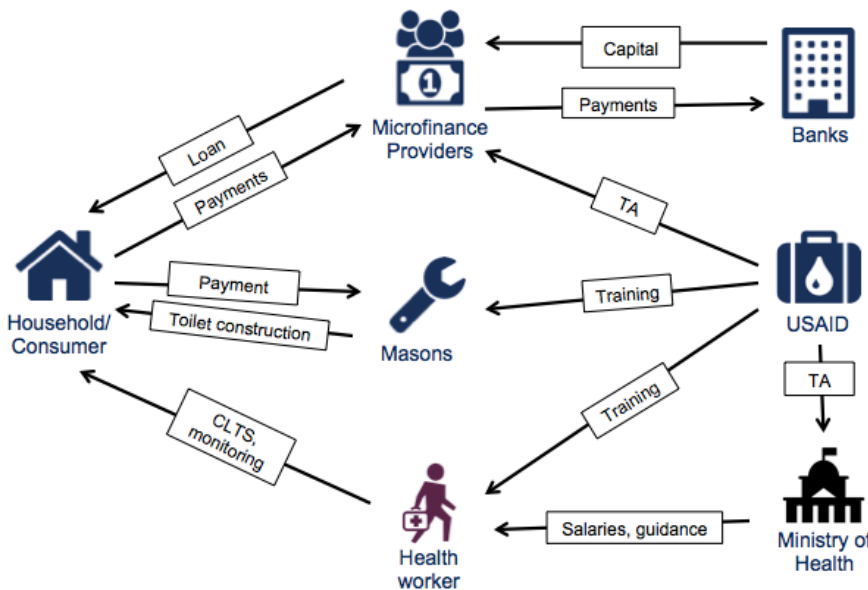


Figure 6: Example service delivery model for rural sanitation activity.

actors, their interrelationships, and the incentives that guide each of them. Furthermore, a service delivery model visually demonstrates that improved outcomes will only be achieved by addressing the performance of multiple actors and the effectiveness of their interactions. Figure 6 gives a generic example of a basic service delivery model for a rural sanitation activity.

It is also necessary to understand the common factors of sustainability of WASH services: financial, institutional, environmental, technical, and social.<sup>2</sup> When designing a sanitation program, evaluating a proposal, developing a service delivery model, or

<sup>2</sup> Financial sustainability ensures WASH services are financially viable for service consumers and providers over time; institutional sustainability ensures that appropriate WASH policies, strategies, roles and responsibilities are in place and enforced; environmental sustainability ensures that WASH services do not have a negative impact on the environment; technical sustainability ensures that a strong supply chain and technical support systems are in existence; and social sustainability ensures that WASH access is equitable and affordable.

implementing an activity – these five factors should be considered and adequately addressed. Failure to consider and address any one of them will increase the risk that the services are not sustained.

## C. Components of Implementation

A common way to understand implementation of sanitation activities is through three simple components: the enabling environment (policies, social norms, institutions, and financing), sanitation software (capacity building, technical assistance, behavior change), and infrastructure or sanitation hardware (construction of toilets and sewers, supply chains). The following section provides descriptions of the three component areas with examples from the field.

### *Sanitation Enabling Environment*

A strong enabling environment in sanitation requires equitable policies, adequate resources, supportive social norms, and good governance with strong management and accountability. Typical enabling environment activities include technical assistance and capacity building with a focus on supporting strong leadership, institutions, and civil society, to make sanitation both a private and public issue. Appropriate regulation with pervasive enforcement, regular monitoring, and adaptive management at national, sub-national, and local levels are three aspects of the enabling environment in particular that are a strong determinant of successfully scaling up sanitation improvements.

#### **Examples from the Field: Indonesia Urban WASH Program**

The Indonesia Urban WASH Program (IUWASH) seeks to provide sustainable water and sanitation services to the poor in over 50 cities across Indonesia. IUWASH is a five-year \$40.7 million program (approximately 50 percent is dedicated for sanitation). IUWASH focused on the enabling environment by primarily partnering with municipal level governments and utilities to improve urban sanitation service provision. Key aspects of the effort include establishing municipal sanitation units within local government and strengthening implementation of national investment activities focused on on-site sanitation services. To date, IUWASH has helped 10 municipal city authorities to establish sanitation units and improve service delivery, reaching more than 250,000 people with improved sanitation. For additional information, visit <http://iuwash.or.id>.

### *Sanitation Software*

Evidence shows it is better to invest in market-driven solutions for sanitation than traditional top-down, supply-driven or highly subsidized sanitation projects focused only on infrastructure or the construction of latrines. Examples of market-driven approaches include product development, behavior change, and habit formation activities to reduce open defecation or improve marketing of basic sanitation facilities to households. Demand generation is a key component of market-driven service delivery for sanitation and requires social and cultural behavior changes at the community level. Demand-led, at-scale approaches such as Community-Led Total Sanitation (CLTS)<sup>3</sup> and Sanitation Marketing<sup>4</sup> are focused on pride, shame, status, and disgust to stop open defecation.

#### **Examples from the Field: Ghana WASH for Health**

In 2015, Ghana launched the WASH for Health Project (WASH4Health). This five-year, \$18 million program builds on the lessons of preceding WASH efforts to implement at-scale WASH improvements in rural areas. Sanitation improvements will focus on delivery of CLTS, sanitation marketing, school WASH, and governance improvements at the district level. The project is targeting 20 districts with 50,000 people gaining improved sanitation and 640 open defecation free communities.

<sup>3</sup> Community-Led Total Sanitation is an innovative methodology for mobilizing communities to completely eliminate open defecation. <http://www.communityledtotalsanitation.org/resources>

<sup>4</sup> Sanitation Marketing is a market-based approach to increase the availability and use of improved sanitation products and services (e.g., durable and hygienic latrines, safe pit emptying services) using commercial marketing, market development and market facilitation techniques. <http://www.sanitationmarketing.com/resources>

### **Sanitation Hardware**

In order to enable adoption of improved sanitation behaviors, households need access to appropriate infrastructure, and an adequate supply of products and services. Hardware, or infrastructure, includes both the latrine and the services that safely manage the fecal waste through the entire sanitation service chain. Effective and sustainable supply activities should focus on strong private sector engagement and facilitate a robust market of sanitation products and services. Activities can include working with the private sector to improve supply chains, quality of services, redesigning products to be more aspirational and affordable, distributing smart subsidies,<sup>5</sup> and leveraging financial schemes such as village savings and loans, conditional cash transfer, and microfinance to increase purchasing power and reduce the need for subsidies.

#### **Examples from the Field: West Africa Sanitation Service Delivery Program**

USAID/West Africa's Sanitation Service Delivery (SSD) Program seeks to dramatically scale up sanitation service delivery in West Africa through market-based approaches. SSD will develop, test, and scale market-based models, reaching all segments of the unserved population, to achieve and sustain an improved level of sanitation service over time. SSD set targets to reach a million people with improved sanitation and safely managed fecal waste by 2018 in Ghana, Cote d'Ivoire, and Benin. For additional information, visit <https://www.usaid.gov/west-africa-regional/fact-sheets/sanitation-service-delivery-ssd>.

### **D. Addressing Inequalities**

Many of the traditional national and sub-national indicators of access to sanitation are good proxy indicators for progress, but they can mask inequalities in access to sanitation services in almost every country based on geography, and politics, between social groups and between the rich and poor. To ensure USAID is reaching populations with the greatest need for improved sanitation, poverty and gender considerations are included in all levels of sanitation program design and implementation. Also, programs should support the needs of infants, the disabled, and the mobility challenged.

## **IV. Programmatic Implications**

### **A. Directive Attribution**

SOI of the Water and Development Strategy is funded by an annual appropriation in response to the Senator Paul Simon Water for the World Act of 2014. The appropriation is referred to as the "water directive," and eligible activities are described in the Implementation Field Guide.<sup>6</sup> All activities that directly contribute to first-time or improved access to sustainable sanitation services can be fully attributed to the water directive. Specifically, programming that includes activities with verifiable results measured using recently updated standard sanitation F indicators (Table I) are fully attributable. Moreover, all activities described in the best practices section of this document, and contribute to the success of any part of the sanitation services chain, are also fully attributable to the water directive.

<sup>5</sup> A smart subsidy is defined as the targeted provision of financial assistance. Smart subsidies apply a whole of system-based approach whereby the subsidy seeks to address the performance of multiple actors and the effectiveness of their interactions. In particular, smart subsidies should seek to support a functioning local sanitation services market, facilitate behavioral change, and provide facilities to those who would otherwise not be able to afford them. Examples of smart subsidies include full or partial latrine vouchers redeemable at certified local latrine builders, financial assistance directly to business for provision of services to specific market segments, and outcome-based achievement awards. Beneficiaries of smart subsidies typically include only those who would otherwise not be able to achieve basic service such as the extreme poor, vulnerable, or those burdened with undue environmental conditions necessitating expensive construction.

<sup>6</sup> [http://www.usaid.gov/sites/default/files/documents/1865/Strategy\\_Implementation\\_Guide\\_web.pdf](http://www.usaid.gov/sites/default/files/documents/1865/Strategy_Implementation_Guide_web.pdf)

## B. Environmental Considerations

USAID environmental considerations, 22 CFR 216 (known as Reg. 216), apply to all sanitation activities. Environmental considerations documented in a project’s Initial Environmental Evaluation should cover the entirety of the service chain the activity seeks to contribute to in order to prevent a public health hazard or contamination of water sources. Typical mitigating actions in an implementing partner’s Environmental Monitoring and Mitigation Plan will include proper siting of sanitation facilities when conducting construction, ensuring the adequate supply chain services are in place to sustain the improvements, and ensuring adequate monitoring systems are functioning to ensure safety.

## C. USAID Sanitation Program Results for FY 2015

USAID’s Water and Development Strategy has set a 5-year target of reaching 6 million people by 2018 with basic access to sustainable sanitation services. At the end of FY 2015, over 4.2 million beneficiaries have been reached as a result of USG assistance. In FY 2015, USAID exceeded the target of 2,087,731 people gaining access to improved sanitation, with a result of 2,386,095 people reached.<sup>7</sup> Figure 7 shows the number of people gaining access to basic sanitation facilities by region, with 70 percent of beneficiaries located in sub-Saharan Africa.

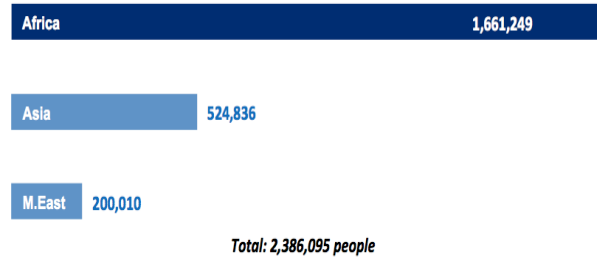


Figure 7: Number of people gaining access to basic sanitation as the result of USAID assistance by region (FY15).

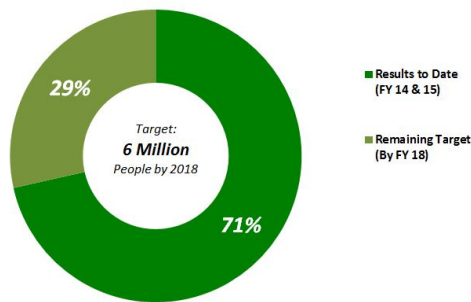


Figure 8: USAID targets and results for beneficiaries gaining access to improved sanitation (FY14-FY18).

The countries with the greatest number of people gaining access to improved sanitation include Kenya, Mali, Democratic Republic of Congo, Jordan, India, Indonesia and the Philippines, and centrally-funded programs for the West Africa region. For country level data on beneficiaries reached, please see Annex A. Figure 8 shows how these results contribute to USAID’s overall goal to reach 6 million people with improved sanitation by 2018 under the Water and Development Strategy.

### Funding Levels

As many sanitation programs are embedded as elements of larger WASH programs, it is not currently possible to report the amount of funding spent specifically on sanitation. The total WASH expenditure for the latest available fiscal year, FY 2014 was \$352.1 million. The total estimated WASH expenditure from FY 2015 will be available by late FY 2016. Going forward, USAID Missions will be required to indicate sanitation specific funding levels in their operational plans.

### Setting Targets and Indicators

Contributing to USAID’s WASH for Health strategic objective, IR1.2 is to increase first-time and improved access to sustainable sanitation services. The following F or standard<sup>8</sup> output indicator should be used to track progress toward this targeted result: “HL.8.2-1 (formerly 3.1.8.2-2) **Number of people gaining access to a basic sanitation service as the result of USG assistance.**” HL.8.2-1 can be used to track and report on progress toward first-time basic sanitation

<sup>7</sup> Based on data pulled from FACTS Info on January 8, 2016. For country-level data on beneficiaries reached, please see Annex A.

<sup>8</sup> “F” refers to the U.S. Department of State’s Office of U.S. Foreign Assistance Resources



service only. Improvements related to lower or higher levels of the sanitation ladder or service chain must be tracked and reported using other indicators. USAID operating units might also choose to report on other standard indicators in HL.8.2, through activities that are being pursued in support of IR1.2, or use custom indicators to track specific components or aspects of programming not otherwise covered. Standard F indicators applicable to sanitation activities include:

| Special Activity Fund #              | Indicator   |
|--------------------------------------|---|
| <b>HL.8.2-1 (formerly 3.1.6.8-5)</b> | Number of communities verified as open defecation free (ODF) as a result of USG assistance                          |
| <b>HL.8.2-2 (formerly 3.1.8.2-2)</b> | Number of people gaining access to a basic sanitation service as a result of USG assistance                         |
| <b>HL.8.2-3 (New in 2016)</b>        | Number of people gaining access to a safely managed sanitation service as a result of USG assistance                |
| <b>HL.8.2-4 (formerly 3.1.8.2-3)</b> | Number of basic sanitation facilities provided in institutional settings as a result of USG assistance <sup>9</sup> |
| <b>HL8.2-5 (formerly 3.1.6.8-1)</b>  | Percentage of households with soap and water at a hand washing station commonly used by family members              |

Table 1: USAID Standard F Indicators for FY16

Examples of custom indicators that broaden measurement with the ambitious objectives of the Water and Development Strategy and attempt to increasingly improve measurement of sustainability and reaching the most vulnerable include:

| Theme                                   | Target  |
|---|---|
| <b>Communal Facilities<sup>10</sup></b> | Number of basic sanitation facilities provided in shared settings as a result of USG assistance   |
| <b>Institutional</b>                    | Percent gain in the institutional strength index of [insert institutional unit here] <sup>11</sup>  |
| <b>Poverty</b>                          | Disaggregate other indicators by poverty quintile   |
| <b>Gender</b>                           | Disaggregate other indicators by gender <sup>12</sup>   |
| <b>Financing</b>                        | Percentage gain in population with access to financial product offerings targeted for household sanitation improvements or sanitation enterprises |
| <b>Public Facilities<sup>13</sup></b>   | Number of basic sanitation facilities provided in public settings as a result of USG assistance   |
| <b>Private Sector</b>                   | Number of enterprises providing sanitation products or services as the result of USG assistance   |
| <b>Private Sector</b>                   | Number of Business Development Services (BDS) firms offering targeted sanitation services as the result of USG assistance                         |
| <b>Monitoring</b>                       | Percentage of the population covered by an effective ODF monitoring system  |
| <b>Use</b>                              | The percentage of sanitation facilities with feces visibly present on the floor, surface, or walls; and well-worn or established path.            |

Table 2: USAID Illustrative Custom Sanitation Indicators

<sup>9</sup> Institutional settings refer to schools, health facilities, and workplaces.

<sup>10</sup> Communal facilities are those shared among two or more closely linked households. As they are shared, communal facilities do not contribute towards the number of people gaining access to basic sanitation services and should be reported separately.

<sup>11</sup> The Institutional Strength Index is a proposed measure of an institutional unit's (such as district or municipal government) functionality to plan, oversee, and sustain sanitation/WASH programming. Often applicants of USAID grants and contracts are recommended to propose a definition in their application and then the details of its definition are negotiated with USAID during development of their Monitoring and Evaluation Plan.

<sup>12</sup> Disaggregation by gender is required by most standard F indicators and is encouraged with custom indicators.

<sup>13</sup> Public sanitation facilities are located in densely populated areas, markets, transport hubs, or intersections. As they are shared, public facilities do not contribute towards the number of people gaining access to basic sanitation services and should be reported separately.

Going forward, Missions are required to improve their reporting on gender and poverty by including the disaggregates in indicators and monitoring plans as appropriate. Disaggregation supports better measurement of the impact of USAID’s programs on vulnerable groups such as women and the poor in accordance with the Water for the World Act (2014).

### *Future Plans and Approaches for USAID Sanitation Programs*

USAID is on track to meet or exceed the Water and Development Strategy’s sanitation target of 6 million people with sustainable sanitation services. In FY 2016, USAID will continue to implement new and existing sanitation programs, designed to utilize best practices for equity and inclusivity. Figure 9 details some of USAID’s major current and planned sanitation multi-year programs across priority countries and regions.

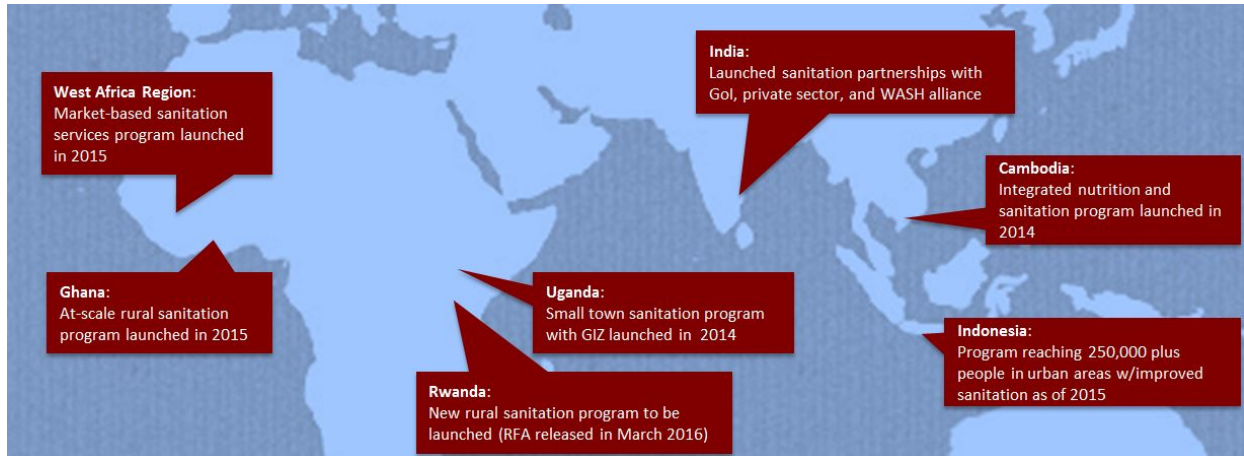


Figure 9: Major USAID Sanitation Programs

## Annex A. FY 2015 Country Level Results for People Gaining Access to Basic Sanitation Facilities

| USAID Bureau | USAID Mission                                   | Number of People Gaining Access to Basic Sanitation Facilities |
|--------------|---|--|
| Africa       | Kenya   | 366,302  |
| Africa       | Mali  | 365,170  |
| Africa       | USAID West Africa Regional                      | 343,035  |
| Africa       | Democratic Republic of Congo                    | 332,854  |
| Middle East  | Jordan  | 196,860  |
| Asia         | India   | 151,547  |
| Asia         | Indonesia                                       | 141,556  |
| Asia         | Philippines                                     | 133,681  |
| Africa       | Madagascar                                      | 81,297   |
| Asia         | Bangladesh                                      | 70,352   |
| Africa       | South Sudan                                     | 41,275   |
| Africa       | Zambia  | 39,609   |
| Asia         | USAID Regional Development Mission-Asia (RDM/A) | 27,700   |
| Africa       | Senegal   | 23,038   |
| Africa       | USAID Sahel Regional Program                    | 22,896   |
| Africa       | Mozambique                                      | 15,708   |
| Africa       | USAID Southern Africa Regional                  | 13,979   |
| Africa       | Ethiopia  | 5,748  |
| Africa       | Tanzania  | 4,107  |
| Africa       | Ghana   | 3,318  |
| Middle East  | West Bank and Gaza                              | 3,150  |
| Africa       | Angola  | 2,913  |

## Annex B. References

Cairncross, S., Hunt, C., Boisson, S., Bostoen, K., Curtis, V., Fung, I.C.H. & Schmidt, W.P. (2010). Water sanitation, and hygiene for the prevention of diarrhea. *International Journal of Epidemiology*. 39 (suppl 1) : i193-i205. doi: 10.1093/ije/dyq035 Available online at: [http://ije.oxfordjournals.org/content/39/suppl\\_1/i193.full](http://ije.oxfordjournals.org/content/39/suppl_1/i193.full).

Jamison, D. T., Breman, J. G., Measham, A. R., Alleyne, G., Claeson, M., Evans, D. B., Jha, P., Mills, A., Musgrove, P. (2006). *Disease Control Priorities in Developing Countries*. Washington, DC: World Bank. Available online at: <http://www.ncbi.nlm.nih.gov/books/NBK11728/>

Merchant, A., Jones, C., Kiure, A., Kupka, R., Fitzmaurice, G., Herrera, M., & Fawzi, W.W. (2003). Water and sanitation associated with improved child growth. *European Journal of Clinical Nutrition*. 57: 1562-8. doi:10.1038/sj.ejcn.1601725 Available online at: <http://www.nature.com/ejcn/journal/v57/n12/full/1601725a.html>

Spears, D. (2013). *How much variation in child height can sanitation explain?* Policy Research Working Paper 6351, World Bank. Available online at: <http://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-6351>

UN Inter-Agency Group for Child Mortality Estimation (UN IGME). (2015). *Levels and Trends in Child Mortality: Report 2015*. New York: United Nations Children's Fund. Available online at: [http://www.childmortality.org/files\\_v20/download/IGME Report 2015\\_9\\_3 LR Web.pdf](http://www.childmortality.org/files_v20/download/IGME%20Report%202015_9_3_LR_Web.pdf)

Walker, C. L., Rudan, I., Liu, L., Nair, H., Theodoratou, E., Bhutta, Z. A., O'Brien, K.L., Campbell, H., Black, R.E. (2013). The Global Burden of Childhood Pneumonia and Diarrhoea. *The Lancet*, 381(9875):1405 - 1416. doi: 10.1016/S0140-6736(13)60222-6. Available online at: [http://linkinghub.elsevier.com/retrieve/pii/S0140-6736\(13\)60222-6](http://linkinghub.elsevier.com/retrieve/pii/S0140-6736(13)60222-6)

WHO/UNICEF Joint Monitoring Program (JMP). (2015a). Progress on sanitation and drinking water – 2015 update and MDG assessment. Geneva: World Health Organization ([http://www.wssinfo.org/fileadmin/user\\_upload/resources/JMP-Update-report-2015\\_English.pdf](http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-Update-report-2015_English.pdf), accessed February 4, 2016)

WHO/UNICEF Joint Monitoring Program (JMP). (2015b). WASH Post-2015 Proposed indicators for drinking water, sanitation and hygiene. Geneva: World Health Organization ([http://www.wssinfo.org/fileadmin/user\\_upload/resources/JMP-WASH-Post-2015-Brochure.pdf](http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-WASH-Post-2015-Brochure.pdf), accessed February 4, 2016).

World Bank Water and Sanitation Program (WSP). (2013). *Economics of Sanitation Initiative*. Available online at: <http://www.wsp.org/content/economic-impacts-sanitation>

World Bank Water and Sanitation Program (WSP). (2014). The Missing Link in Sanitation Service Delivery: A Review of Fecal Sludge Management in 12 Cities. Water and Sanitation Program Research Brief. Available online at: <http://www.wsp.org/sites/wsp.org/files/publications/WSP-Fecal-Sludge-12-City-Review-Research-Brief.pdf>