

Progress in Water, Sanitation and Hygiene Service Coverage in Ethiopia: What More Do We Need to Do and Why?

EXECUTIVE SUMMARY

Although access to adequate water, sanitation and hygiene (WASH) services is a fundamental human right, inadequate WASH coverage continues to be a leading contributor to the burden of disease in Ethiopia, particularly amongst children under five years of age. This brief assesses the progress made in WASH service coverage in Ethiopia between 2000-2016 and highlights key gaps that need special consideration. It also assesses the contribution of improvements in WASH coverage to the change in diarrhea and stunting in children under five years of age.

We found that, nationally, only 50% of rural and urban households in Ethiopia have access to basic water services (i.e., water from an improved source, with collection time not more than 30 minutes round trip), and 6% have access to basic sanitation facilities (i.e., an improved facility that is not shared). Also, one in three households still practice open defecation. Only 10% of households have access to a handwashing facility with soap and water.

Progress in WASH coverage was uneven across the country. For example, while some regions have already achieved basic water service coverage of 75% or more, in others, the proportion served is as low as 32%. Wide disparities also exist between urban and rural households (90% of urban households have access to basic water services compared to only 40% of rural households). The prevalence of diarrhea decreased from 24% to 12% whilst the prevalence of stunting decreased from 58% to 38%. Reduction in open defecation contributed to 7% of the total decline in stunting and 5%



Photo credit: UNICEF/Ethiopia/2020/NahomeTesfaye

of the total decline in diarrhea in children aged 0-59 months.

To increase coverage of basic WASH services, additional financial investment needs to be generated, for instance, through taxes, tariffs (revenues from service users), and transfers (foreign aid or loans). Increased engagement of the private sector in WASH service delivery is also needed. Triggering components of the Community-Led Total Sanitation and Hygiene (CLTSH) program should be redesigned to improve effectiveness in regions where open defecation is still high. Implementation of hygiene interventions outlined in the CLTSH is currently low and should be strengthened.

THE PROBLEM

Access to adequate WASH services is a fundamental human right¹. However, inadequate WASH coverage continues to be a leading contributor to the burden of disease in Ethiopia, particularly amongst children under five years^{2,3}. One of the many benefits of adequate WASH is a decreased incidence

of infectious diseases such as diarrhea and associated morbidity and mortality⁴. Also, improving WASH services can reduce the risk of stunting by decreasing diarrheal incidences⁵. Given the high burden of diarrhea and stunting amongst children under five years in Ethiopia⁶, higher coverage of basic WASH services is of vital importance.

The central role WASH plays in development is recognized by the Sustainable Development Goal 6, which calls for “universal access to safe and adequate water, sanitation, and hygiene for all by 2030”⁷. Improving coverage of WASH services will not only help achieve this goal but will contribute to national development plans such as Ethiopia’s Growth and Transformation Plan II, which has

WASH targets⁸. It is also a strategy that can be used in the fight against the COVID-19 pandemic as frequent and proper hand hygiene can reduce the spread of respiratory infections⁹.

This brief aims to:

- Summarize the findings of an analysis done to understand progress made in WASH services coverage in Ethiopia between 2000 and 2016 and to highlight key gaps that need addressing.
- Assess the contribution of improvements in WASH coverage to the change in diarrhea and stunting in children under five years.

Box 1: Methodology

For this analysis, nationally and regionally representative household and child data from the four rounds of the Ethiopia Demographic and Health Survey (2000, 2005, 2011 and 2016) were used, and included a total of 61,715 households and 20,509 children under five years. For progress in WASH service coverage, the analysis team used the new WHO/UNICEF Joint Monitoring Program (JMP) service ladders¹⁰ (Figure 1). These new service ladders build on the widely used improved/unimproved facility type classification and introduce additional indicators to reflect higher standards¹⁰.

Figure 1: WASH Service Ladders



KEY FINDINGS

Coverage of basic water services has increased but significant improvements are still needed.

Nationally, only 50% of households in Ethiopia have access to basic water services. Although basic water service coverage increased by 32% between 2000 and 2016, 24% of households still use an unimproved water source, and 11% use surface water. Progress in basic water services coverage was uneven across regions and place of residence. Less than 50% of households in Somali, Southern Nations, Nationalities, and Peoples' Region (SNNPR), Afar, and Amhara use a basic water source. Only 40% of households in rural areas have access to basic water services compared to 90% in urban areas. Also, basic water service access was higher among the wealthiest households compared to the poorest households.

Coverage of basic sanitation services is low.

Although open defecation declined by 50% nationally between 2000 and 2016, basic sanitation service coverage is still low. Only 6% of households use a basic sanitation facility. Also, one in three households still practice open defecation. The progress in basic sanitation coverage is different across regions. Around a quarter of households in Addis Ababa and Dire Dawa have access to a basic sanitation facility, the largest proportion in the country although still low. By contrast, more than 50% of households still practice open defecation in Afar, Somali, Tigray and Gambella regions.

Less than 10% of households have access to basic hygiene facilities.

Only 8% of households in Ethiopia have access to a basic handwashing facility. Also, 52% of households have a handwashing facility with no soap, and 40% have no handwashing facility. In Harari, Somali, Dire Dawa, Tigray, Afar, and Oromia regions, 70% of households do not have any handwashing facility.

Figure 2: Water service coverage between 2000 and 2016

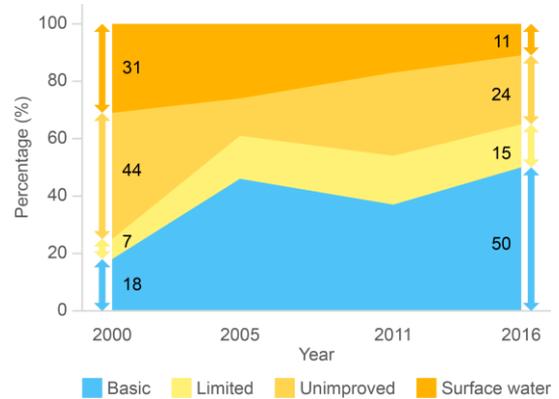


Figure 3: Sanitation service coverage between 2000 and 2016

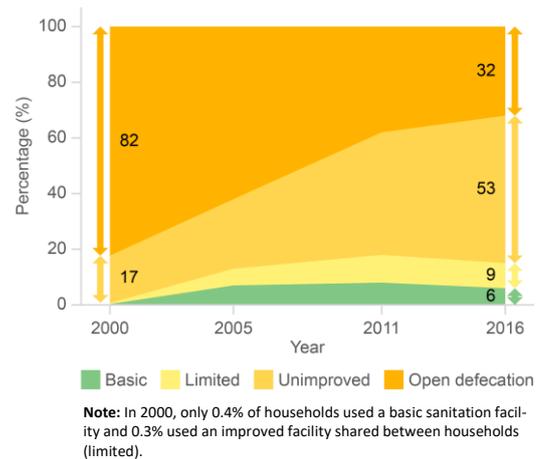
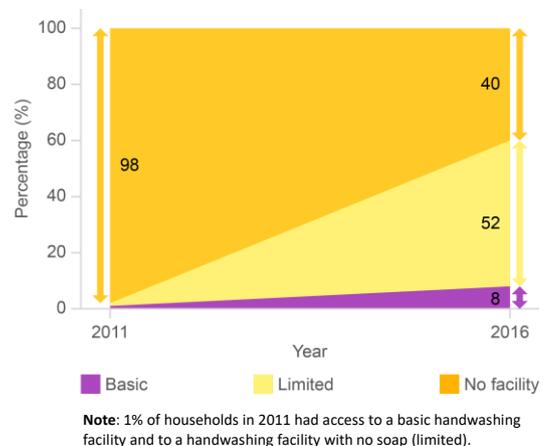


Figure 4: Hygiene service coverage between 2011 and 2016



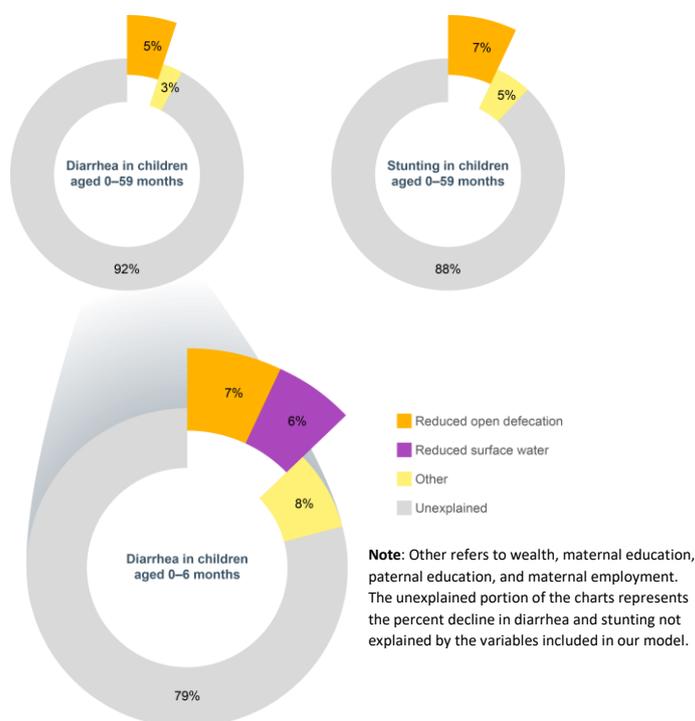
Although diarrhea and stunting rates declined, the burden is still high.

Between 2000 and 2016 diarrhea and stunting among children under five years declined by 12% and 20% respectively. However, 38% of children under five years are still stunted and the prevalence of diarrhea is high at 12%.

Improvement in water and sanitation service coverage contributed to the reduction in diarrhea and stunting.

Improvements in water and sanitation practices contributed to the total reduction in diarrhea and stunting between 2000 and 2016. Reduction in open defecation contributed to 7% of the total decline in stunting and 5% of the total decline in diarrhea in children aged 0-59 months. In children aged 0-6 months, reduction in open defecation and surface water use contributed to 7% and 6% of the decline in diarrhea respectively.

Figure 5: Contribution of the reduction in surface water use and open defecation to the decline in diarrhea and stunting between 2000 and 2016.



Box 2: Key Programs Currently in Place to Increase WASH Coverage

The ONE WASH National Program: Launched in 2013, and currently in its second phase, the One WASH National Program is the Government of Ethiopia’s umbrella program designed to achieve universal, sustainable, climate resilient and equitable access to safe and affordable water for all, along with improved, low environmental impact, and sanitation¹¹ The program provides a multisectoral platform through which government WASH actors and developmental partners implement coordinated actions to increase WASH coverage. The program has medium and long-term goals and includes multiple components, such as the construction and rehabilitation of water supply schemes and sanitation facilities in rural and urban areas, health institutions and schools, improving the resilience of WASH services to climatic shocks through climate-adaptive service delivery, water resource monitoring and planning to assess climate change risks and capacity development¹¹.

Community Led Total Health and Sanitation (CLTSH): The Ministry of Health (MOH) has adopted the CLTSH as a national approach to improve sanitation and hygiene since 2007¹³.

The national CLTSH implementation guideline outlines actions for sanitation and hygiene promotion. The CLTSH initiates behavior change at the community level through community conversations and the use of behavior change triggering mechanisms such as a transect (“shame”) walk to highlight the health risks associated with open defecation and poor hygiene. In the final phase of the approach, after verification, *kebeles* are declared as open defecation free (ODF)¹³. In addition to CLTSH, the MOH also has an implementation guideline for interventions post-triggering and post-ODF verification.

The Sanitation Marketing Initiative: This initiative aims to increase access to affordable and improved basic sanitation and hygiene products and services based on needs and preferences. This is done by creating consumer demand and by engaging the private sector to supply sustainable sanitation and hygiene technology options. The MOH launched the National Sanitation Marketing Guideline in 2013¹², to provide a framework for action for sanitation marketing. Since then, regional governments have started to implement sanitation marketing and business development interventions in selected district health offices.

ACTIONS TO DRIVE PROGRESS IN INCREASING COVERAGE OF WASH SERVICES FOR ALL

ACTION 1: INCREASE COVERAGE OF BASIC WATER SERVICES FOR ALL THROUGH INCREASED FINANCIAL INVESTMENT AND ENGAGEMENT OF THE PRIVATE SECTOR IN WASH SERVICE DELIVERY.

A cost-benefit analysis of WASH interventions shows that they are cost-effective. For every \$1 invested in WASH, between \$2-9 is returned through the benefits WASH interventions confer on health, social and economic wellbeing¹⁴. Therefore, recommended actions include:

- Secure more investment for sustainable water service delivery through a combination of taxes, increased tariffs, and transfers (foreign aid and loans) from development partners as well as from the Ethiopian private sector.
- Increase private sector engagement. For this, investment in WASH should be made attractive for the banking sector so that for instance, loans for water utilities or schemes can be made available.
- Design an appropriate regulatory framework that would ensure that targeted WASH services would be effectively delegated to private sector stakeholders while benefitting from their know-how and ensuring adherence to sector standards.

ACTION 2: REDESIGN COMPONENTS OF THE CURRENT CLTSH PROGRAM TO IMPROVE SUITABILITY IN ALL REGIONS.

- Redesign some components of CLTSH, such as triggering mechanisms, by adopting more community-inclusive approaches to improve effectiveness in some regions.

- Although the CLTSH approach has been used successfully in most regions, open defecation is still high in some regions, for instance, in Afar and Somali.
- Reinforce messages delivered through the CLTSH program via the implementation of additional social and behavior change communication interventions.

ACTION 3: INCREASE ACCESS TO BASIC HYGIENE SERVICES FOR ALL THROUGH STRENGTHENING IMPLEMENTATION OF HYGIENE-RELATED COMPONENTS OF CLTSH, PROMOTION OF HYGIENE PRACTICES AND INCREASING AVAILABILITY OF HYGIENE PRODUCTS.

- Strengthen the implementation of hygiene components to increase coverage of basic hygiene services. Although hygiene promotion activities are included in the CLTSH, their implementation can considerably be strengthened by placing more emphasis on hygiene.
- Develop and/or scale up hygiene promotional activities to ensure that basic hygiene practices are sustainably adopted. The COVID-19 pandemic has highlighted the importance of good hand hygiene to fight the disease. It has also shown that hand hygiene campaigns can effectively change hygiene-related behavior. However, the prevailing WASH conditions are suboptimal to adopt the basic COVID-19 prevention measures¹⁵ emphasizing the need to increase basic hygiene coverage.
- Support local hygiene technologies and scale up sanitation marketing initiatives to meet the demand for hygiene products.

Limitations of the Analysis

At the time of analysis, WASH service coverage data were not available beyond 2016. While WHO/UNICEF JMP data were available for 2019, these data are based on 'estimated' values and therefore were not considered for this analysis. Thus, it was not possible to construct WASH service ladders and determine the contribution of the change in WASH to the change in diarrhea and stunting beyond 2016. The 2019 Mini-EDHS¹⁶ (the most recent data), reported findings that can be used to assess progress made in sanitation only. Overall, 18% of households used a basic sanitation facility. This is a threefold increase in coverage compared to what our analysis showed for 2016 (6%).

FURTHER INFORMATION

Currently, the NIPN team is preparing a manuscript from this study for publication. NIPN will make the study report available on the NIPN website. Please regularly check the NIPN website (<http://www.nipn.ephi.gov.et/>) for updates.

AUTHORS

Meron Girma¹, Aregash Samuel¹, Rebecca Pradeilles³, Tirsit Genye², Cornelia van Zyl²

1. Ethiopian Public Health Institute (EPHI)/National Information Platforms for Nutrition (NIPN)
2. International Food Policy Research Institute (IFPRI)/NIPN
3. International Food Policy Research Institute (IFPRI)/Collaborator

REFERENCES

1. United Nations. The human right to water and sanitation 2010.
2. GBD 2017 Risk Factor Collaborators. Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and territories, 1990–2017: A systematic analysis for the global burden of disease study 2017 *Lancet* 2017;392(10).
3. Troeger C, Blacker BF, Khalil IA, Rao PC, Cao S, Zimsen SRM, Albertson SB, Stanaway JD, Deshpande A, Abebe Z and others. Estimates of the global, regional, and national morbidity, mortality, and aetiologies of diarrhoea in 195 countries: A systematic analysis for the Global Burden of Disease Study 2016. *The Lancet Infectious Diseases* 2018;18(11):1211-1228.
4. Alebel A, Tesema C, Temesgen B, Gebrie A, Petrucka P, Kibret GD. Prevalence and determinants of diarrhea among under-five children in Ethiopia: A systematic review and meta-analysis. *PLoS One* 2018;13(6):e0199684.
5. Danaei G, Andrews KG, Sudfeld CR, Fink G, McCoy DC, Peet E, Sania A, Smith Fawzi MC, Ezzati M, Fawzi WW. Risk factors for childhood stunting in 137 developing countries: A comparative risk assessment analysis at global, regional, and country levels. *PLoS Med* 2016;13(11):e1002164.
6. Central Statistical Agency [Ethiopia] and ICF. Ethiopia demographic and health survey 2016. Addis Ababa, Ethiopia and Rockville, USA: CSA and ICF; 2016.
7. United Nations. Transforming our world: The 2030 agenda for sustainable development. 2015.
8. Federal Democratic Republic of Ethiopia. Growth and Transformation Plan II (GTP II). In: Commission NP, editor. Addis Ababa 2016.
9. Rabie T, Curtis V. Handwashing and risk of respiratory infections: a quantitative systematic review. *Trop Med Int Health* 2006;11(3):258-67.
10. WHO.UNICEF. WASH in the 2030 Agenda: new global indicators for drinking water, sanitation and hygiene. Geneva. Geneva: World Health Organization, United Nations Children's Fund; 2016.
11. Federal Democratic Republic of Ethiopia. ONE WASH National Program: Program Operational Manual (POM) for the Consolidated WASH Account (CWA) Phase II. Addis Ababa 2019.
12. Federal Democratic Republic of Ethiopia: Ministry of Health. National sanitation marketing guideline. Addis Ababa, 2013
13. Federal Democratic Republic of Ethiopia: Ministry of Health. Implementation Guideline for CLTSH Programming Addis Ababa 2012.
14. World Health Organization. Global costs and benefits of drinking-water supply and sanitation interventions to reach the MDG target and universal coverage. Geneva: World Health Organization 2012.
15. Baye K. COVID-19 prevention measures in Ethiopia: Current realities and prospects. . ESSP Working Paper. Washington, DC; Addis Ababa, Ethiopia International Food Policy Research Institute (IFPRI) and Policy Studies Institute (PSI); 2020.
16. Ethiopian Public Health Institute (EPHI) [Ethiopia] and ICF. Ethiopia Mini Demographic and Health Survey 2019: Key Indicators. Rockville, Maryland, USA: EPHI and ICF; 2019.

ACKNOWLEDGMENTS

The authors of this policy brief gratefully acknowledge Alemayehu Hussen (EPHI/NIPN) for his contribution to data preparation and analysis, Anne Bossuyt (IFPRI) for reviewing the report, Kalle Hirvonen (IFPRI) for his substantial comments on the analysis and Tom Norris (IFPRI collaborator) for his guidance throughout the analysis and report writing. Recognition also goes to Alemnesh Petros (EPHI), Kaleab Baye (Addis Ababa University), Kalle Hirvonen (IFPRI), Mamuye Hadis (EPHI), Abiy Girma (National ONE WASH Program), Abireham Misganaw (MOH), and Chris Rue (IFPRI) for their review of this policy brief.

CONTACT: Please address any queries to NIPN Ethiopia at ephi.nipn@gmail.com

NIPN ETHIOPIA

Ethiopian Public Health Institute | Addis Ababa | Email: ephi.nipn@gmail.com | <http://www.nipn.ephi.gov.et/>

