Traditionally, sanitation has not received the priority it deserves. It has not been widely recognized how good sanitation policies and practices can underpin socio-economic development and environmental protection. This study provides an estimate of economic impacts on populations without access to improved sanitation in order to provide information on the losses to society from the current sanitation situation. While not all these economic impacts can be immediately recovered from improved sanitation practices, it provides a perspective on the economic gains that are available to countries through a range of policies to mitigate these impacts over the longer term. Underlying data sets to estimate economic impacts are weak; the study therefore uses objectively verified data sources and conservative numbers to estimate economic impacts. Several impacts have been excluded due to lack of data (see page 3). Therefore the total costs of losses in this report may be a significant under-estimate.

Study Methods

Data used for these estimates is based on Demographic and Health Studies (DHS) and Multiple Indicator Cluster Surveys (MICS) and is the Joint Monitoring Programme for Water Supply and Sanitation (JMP). Health care costs: included out-of-pocket and indirect costs and patient travel costs, estimated using disease rates and treatment survival behavior from DHS and MICS, and unit costs of health services from WHO-CHOICE.

Health-related productivity costs: average length of time spent on health-related productivity losses (WHO-CHOICE).

Health care costs: included outpatient and inpatient costs and patient travel costs, estimated using disease rates and treatment survival behavior from DHS and MICS, and unit costs of health services from WHO-CHOICE.

GDP per capita to conservatively estimate the average economic contribution of a member of society.

Time costs for accessing site of open defecation: extra travel time is based on the expert opinion of over 25 sector specialists.

Time value is the incapacitated was 2 days (diarrhea), 5 days (respiratory infection) and 4 days (dysentery).

Mortality costs:
same as access time costs (see below).

diversion of carers from other activities (2 hours per day). Time value is the

impacts of different types of unimproved sanitation, however, is constructed to be

be an under-estimate as those without toilets, particularly women, will be

the desk study on the Economics Impacts of Poor Sanitation in

through the lens of a 'service delivery pathway', to identify the major

the costs to those practicing open defecation.

scores for coordination, community WASH response and WASH in cholera

throughout the development and implementation phase.

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therefore uses objectively verified data sources and conservative numbers to

ECONOMIC IMPACTS OF POOR SANITATION IN AFRICA

Notes and References

The potential effect of tropical enteropathy on child growth remains a
disproportionately on women as caregivers who may spend additional time
accompanying young children to on-site realities.

this to find a private location for urination as well.

1. US$ = GHC1.449 (2010 Average)

2. 2011 market exchange rate, except where otherwise mentioned.

3. July 2011

4. The official exchange rate is used in all calculations.

5. 16 million Ghanaians use unimproved or shared latrines.

6. 4.8 million have no latrines at all and defecate in the open.

7. The poorest quintile is 2.2 times more likely to practice open defecation than the richest.

8. Open defecation costs Ghana US$11 per person, yet eliminating the practice would require less than 1 million latrines to be built and used.

9. This is a significant under-estimate as those without toilets, particularly women, will be

10. The potential effect of tropical enteropathy on child growth remains an

11. 16 million Ghanaians use unimproved or shared latrines.

12. This includes the estimated economic impact of diarrheal disease and surrogates for

13. US$12 per person in Ghana per year, equivalent to 1.6% of the national GDP.

14. 15 million Ghanaians use unimproved or shared latrines.

15. The poorest quintile is 2.2 times more likely to practice open defecation than the richest.

16. Open defecation costs Ghana US$11 per person, yet eliminating the practice would require less than 1 million latrines to be built and used.

17. US$19 million lost each year in Access Time:

Each person practicing open defecation spends almost 2.5 days a year finding a
private location to defecate leading to large economic losses. This cost falls
disproportionately on women as caregivers who may spend additional time
accompanying young children to a nearby toilet. This cost is likely an
under-estimate as those without toilets, particularly women, will be

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18. US$12 per person in Ghana per year, equivalent to 1.6% of the national GDP.

19. 15 million Ghanaians use unimproved or shared latrines.

20. The poorest quintile is 2.2 times more likely to practice open defecation than the richest.

21. Open defecation costs Ghana US$11 per person, yet eliminating the practice would require less than 1 million latrines to be built and used.

22. US$15 million lost each year due to Premature Death:

Approximately 19,600 Ghanaians, including 5,100 children under 5, die each year from diarrhoea – nearly 40% of which is directly attributable to poor sanitation and hygiene (WSP). In addition poor sanitation is a contributing factor towards an estimated 15% of all deaths in Ghana. These deaths result from diarrhoea or other leading causes of child mortality including malaria, AIDS and measles.

23. US$15 million lost each year due to Productivity Losses Whose affects include:

This includes time absent from work both in the day and at night, due to health seeking for treatment from a health clinic or hospital, and time spent caring for under-5’s suffering from diarrhoea or other sanitation-attributable diseases.

24. US$54 million spent each year on Health Care:

This includes time absent from work both in the day and at night, due to health seeking for treatment from a health clinic or hospital, and time spent caring for under-5’s suffering from diarrhoea or other sanitation-attributable diseases.

The report prototype was peer reviewed by Oliver Cumming (consultant), Lewnida Sara (WSP), Alice Muthoni Kiama (consultant). The eThekwini Declaration (2008) and Second AMCOW Country Status Overview CSO2 (2011), Africa (2008), World Economic Forum Travel and Tourism Competitiveness Report, 2011

Economic impacts are weak; the study therefore uses objectively verified data sources and conservative numbers to estimate economic impacts. Several impacts have been excluded due to lack of data (see page 3). Therefore the total costs of losses in this report may be a significant under-estimate.

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ECONOMIC IMPACTS OF POOR SANITATION IN AFRICA

Ghana loses GHC420 million annually due to poor sanitation

Provision of improved sanitation and hygiene services is a priority in the national development plan. However, the economic impact of poor sanitation on the Arewa region, as presented by Humphrey et al. (2009), shows that the region has a significant economic burden as a result of poor sanitation.

The main objectives of this study were to estimate the economic impact of poor sanitation in Ghana, and to assess the impact of improved sanitation on the economy. The study was conducted using a bottom-up approach, which involved identifying the economic impacts of poor sanitation and then estimating the economic benefits of improved sanitation.

The study found that the economic impact of poor sanitation in Ghana is significant. The total cost of poor sanitation in Ghana is estimated to be GHC420 million annually. This cost is due to the following economic impacts:

- Access Time: GHC215 million
- Premature Death: GHC12 million
- Productivity Losses: GHC19 million
- Funeral Costs: GHC2 million
- Health Care Costs: GHC3 million
- GDP Loss: GHC10 million

The study also found that improved sanitation can provide significant economic benefits. The estimated economic benefits of improved sanitation are:

- Access Time: GHC180 million
- Premature Death: GHC6 million
- Productivity Losses: GHC16 million
- Funeral Costs: GHC1 million
- Health Care Costs: GHC2 million
- GDP Loss: GHC5 million

In conclusion, the study recommends that efforts should be made to improve sanitation in Ghana to reduce the economic burden associated with poor sanitation. Improved sanitation can provide significant economic benefits and improve the quality of life for the Ghanaian population.
EQUITY

The economic burden of poor sanitation falls most heavily on the poorest

The costs of poor sanitation are inextricably distributed with the highest economic burden falling disproportionately on the poorest. The average cost associated with poor sanitation constitutes a much greater proportion of a poor person’s income than that of a wealthier person.

Access to sanitation alone demonstrates inequities: the poorest 20% of the population spend twice as likely to precipitate open defecation than the wealthiest 20% of the population.

For the poorest therefore, poverty is a double-edged sword – not only are they more likely to have poor sanitation but they have to pay proportionally more for the negative effects it has.

Open defecation costs more than fixed-point sanitation

Incostsquantifiedbythestudy,open-defecationcostsmoreperpersonthananyothertypeofunimprovedsanitation;theadditionalcostsaremainlyduetothedatetakenfindasafe,privatelocationfordigitation.

Costsrelatedtothesanitationstatusaredoubledtohigherthanthosethataretakenreachsandsurroundpubliclavatoriesaswellaswhentheseareadded.Asitisnotpossibletoestimatetheoptimumofpubliclavatoriesusedinthehighcostbasincategoriethese costs are not included.

Health costs cannot be easily assigned across basins categories. Sanitation is a public health issue - people are affected by their neighbours and communities sanitation status as well as their own, and the costs of open defecation are felt throughout the community.

Open defecation also has considerable social costs. Loss of dignity and privacy or risk of physical attack and sexual violence may not be easily valued in monetary units, but these issues are the reality when sanitation facilities are not available.

ADDITIONAL COSTS

Epidemic outbreak costs:

Fecal contamination of the environment is the root cause of an annual average of 1,800 cases of cholera affecting Ghana. The cost of the necessary VIP/CHF responses is estimated to be US$1.2 million each year.

However the economic implications of a cholera outbreak go beyond the immediate health system response—there are additional costs associated with premature death, diverting expenditures from other essential items and leading to losses in trade and tourism revenue.

Funeral costs:

Calculations for the cost of premature death do not take into account funeral costs, which are borne directly by households and can be significant across Africa. One study in South Africa found that on average, households spend an average of 7% of total expenditure on food, groceries on funeral-related costs (measured as a share of household expenditure). In Ghana, funeral-related costs are estimated at US$3 million.

Water Pollution:

The adverse impact of unsafe excreta disposal on water resources is not included in the cost calculation as figures are not available for Africa. Where this affects drinking water supplies, water supply and treatment costs for drinking and other domestic uses will add to the costs associated with poor sanitation.

Cognitive development:

The model does not attempt to capture the long-term economic losses related to the adverse effects of poor sanitation on cognitive development. Early childhood diarrhea contributes to under-nutrition, stunting and wasting which are associated with malnutrition and in turn with reduced long-term cognitive development. Infection with anti-parasitic helminths is also an important cause of impairment in Intellectual and cognitive development.

Tourism:

Tourism can be a significant source of income, employment and foreign currency. There are multiple factors that contribute to travel and tourism competitiveness. The WEF Travel and Tourism competitiveness report ranks countries according to 75 indicators, one of which is sanitation status.

Based on the current contribution of travel and tourism to GDP in Ghana, addressing sanitation in Ghana could lead to an increase in travel and tourism of an estimated US$5 million annually.

Re-use:

Although not included in this model, recycling of excreta is an option that could bring potential economic benefits. The value of secrets misuse to likely increase in the future as world phosphate reserves continue to decline.

Turning Finance into Sanitation Services

The 27% AMCOV Country Status Overview (CSO2) Scorecard for Ghana (which assesses the transformation of inputs to finance into services) identifies budget and uptake as particular bottlenecks along the rural service delivery pathway and planning, budgeting and use in the pathway for urban sanitation.

Allocate higher investments to sanitation

Current sanitation investment in Ghana is less than 0.1% GDP, which is lower than estimated investments for what is required. Increased investments in sanitation and hygiene promotion are required not only to realize health and welfare benefits of sanitation but also to avert large economic losses.

Target investments to the poorest

Sanitation inequity should be addressed through specific strategies to address the sanitation needs of the poorest.

Prioritise elimination of open defecation

Open defecation not only has higher costs than any other sanitation practice, it has considerable adverse social impacts. Low cost and effective ways of stopping open defecation need to be scaled up.

WHAT NEEDS TO BE DONE

CSO2 scorecard colour code:

- Green - building blocks that are largely in place, acting as a driver for success
- Amber - building blocks that are emerging or nascent
- Red - building blocks that are inadequate, constitute a barrier to service delivery and need attention

Open Defecation: Number of people using open defecation, Number of households with water and sanitation services, Number of households using unimproved sanitation services

WASH: Water, Sanitation and Hygiene

Ghana - Sustainable Development Goals

Cognitive Development

Urban Sanitation and Hygiene Scorecard (CSO2)

Rural Sanitation and Hygiene Scorecard (CSO2)

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