

Water, Sanitation, and Hygiene for People Living with HIV and AIDS



People living with the Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome recognize the need for safe water, appropriate sanitation, and hygiene practices better than most people but there seem to be barriers in converting knowledge into practice. Although nongovernmental organizations and networks of people living with HIV and AIDS have started incorporating messages on safe water and hygiene practices into their efforts, the communication is inconsistent and not always comprehensive.



The lack of availability and accessibility of safe water leads to usage of unsafe water, causing further health risks for people living with HIV and AIDS.

Executive Summary

While it is well recognized and accepted that water, sanitation, and hygiene as well as the Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) have impacts on each other, there have been limited field studies and documentation to record this connection. Water and Sanitation Program-South Asia, The World Bank, recognized the need for exploring the links between the two and commissioned a study on 'Water, sanitation, and hygiene behavior among people living with HIV and AIDS'.¹ The study was conducted among people living with HIV and AIDS and a section of the population in selected areas of the Indian states of Tamil Nadu and Andhra Pradesh. The study was followed by a national consultation for disseminating the findings of the study, building consensus on the need for mainstreaming water, sanitation, and hygiene safety messages in care and support programs for people living with HIV and AIDS, and identifying further strategies. This was followed by two state-level consultations in the two states.

People living with HIV and AIDS recognize the need for safe water, appropriate sanitation, and hygiene practices better than most people. However, barriers—such as limitations of time, economic constraints, lack of individual household toilets, lack of fuel for boiling water, and water scarcity—were reported in converting knowledge into practice. Nongovernmental organizations (NGOs) and networks of people living with HIV and AIDS have now started incorporating messages on safe water and hygiene practices into their efforts. However, such communication is inconsistent and not always comprehensive. There is potential and interest among a number of stakeholders to incorporate better interventions and communication to improve water, sanitation, and hygiene practices among people living with HIV and AIDS.

Realizing the need for disseminating the findings of the study and drawing the attention of stakeholders regarding the links between water, sanitation, and hygiene, and HIV and AIDS, Water and Sanitation Program-South Asia has developed this field note. This note draws upon learning from the study commissioned by the Program, the proceedings of the national and state-level consultations, and from desk research on other studies and experiences, mainly in South Asia. This field note captures the importance of incorporating improved, consistent, and comprehensive water, sanitation, and hygiene-related information into HIV and AIDS care interventions.

¹ 'Water, sanitation, and hygiene behavior among people living with HIV/AIDS: A situation analysis.' Water and Sanitation Program-South Asia.

Background

HIV and AIDS have emerged as one of the biggest developmental challenges in recent times: over 38.6 million people were living with HIV at the end of 2005. An estimated 4.1 million contracted HIV and an estimated 2.8 million lost their lives to AIDS.² About 28 million people have died of HIV and AIDS so far. AIDS has created 15.2 million orphans worldwide.³ Latest estimates show that some 8.3 million people were living with HIV in Asia at the end of 2005, more than two-thirds of them in one country, India. The estimated number of people living with HIV and AIDS in India is 5.7 million.⁴ The Declaration of Commitment adopted by the United Nations' General Assembly Special Session on HIV and AIDS (held in June 2001), described them as complex medical, social, economic, political, cultural, and human rights problems, which cut across all sectors of developing societies.⁵ HIV and AIDS are no longer seen as medical or health issues but as development issues pervading all sectors and sections of society.

HIV and AIDS affect people in their most productive periods, depriving families, society, and nations of resources that could be generated by the productivity of the affected people.

The Millennium Development Goals have an explicit objective to halt and reverse the spread of HIV and AIDS. The two, however, are capable of affecting the viability of the achievement of the other Goals.⁶ The devastating and

² Report on the Global AIDS Epidemic. 2006. UNAIDS.

³ www.youandaids.org/The%20Epidemic/Overview/index.asp

⁴ Ibid.

⁵ Kamminga, Evelien, and Madeleen Wegelin Schuringa.

'HIV/AIDS and Water, Sanitation, and Hygiene: Thematic Overview Paper.' Royal Tropical Institute (KIT) and International Water and Sanitation Center (IRC).

⁶ Ibid.



all-pervading impacts of HIV and AIDS have forced policymakers and development partners to not limit HIV and AIDS to the health sector but to mainstream efforts to all other sectors and stakeholders.

Linkages between Water, Sanitation, Hygiene, and HIV and AIDS

This section draws from a desk review of current resources and literature available on the Internet and from literature review conducted as a part of the WSP-SA study on 'Water, sanitation, and hygiene behavior among people living with HIV/AIDS' (see footnote 1). It attempts to explore existing information on linkages between water, sanitation, hygiene, and HIV and AIDS.

HIV and AIDS have emerged as multifaceted issues with multisectoral impacts. Since the epidemic has so many different faces and dimensions, the relationship between HIV and AIDS as well as water, sanitation, and hygiene is rather complex (see footnote 5). It is believed that access to reliable, affordable, and safe water and sanitation can significantly mitigate against some impacts of the virus or the syndrome, and improve the quality of life of those living with it.⁷ Some aspects of how the lives of people living with HIV and AIDS are affected by the quality, quantity, and availability of water, sanitation, and hygiene have been discussed further.

⁷ The HIV/AIDS Millennium Development Goals. 'What water, sanitation, and hygiene can do—Briefing Note 5.' WELL (www.lboro.ac.uk/well/).



Health of People Living with HIV and AIDS, and Water, Sanitation, and Hygiene

- WaterAid's studies of water provision in four countries, including India, show a decrease in the incidence of water-related diseases and skin diseases.⁸

⁸ Ibid.

- In sub-Saharan Africa, diarrhea is a major cause of morbidity in adults and a leading reported cause of death in the community and in hospitals.

The lack of availability and accessibility of safe water leads to usage of unsafe water, causing further health risks for people living with HIV and AIDS. Such persons have lowered and

In the context of HIV and AIDS, it is especially important that water supply points and toilets are easily accessible and close to where they are needed.

compromised immunity that makes them highly susceptible to other diseases and infections, called 'opportunistic infections'.⁹

A number of such infections are related to poor water supply, sanitation, and hygiene, for instance, diarrhea and various types of skin diseases. The risk of getting malaria is also greater, and is worsened by poor drainage that creates mosquito-breeding sites in and around communities.¹⁰

Water, Sanitation, and Hygiene Affects Care of People Living with HIV and AIDS and Caregivers

- A 2002 survey of South African HIV-affected households found less than half had running water in the dwelling and almost a quarter of rural households had no toilet.¹¹
- Asian women walk an average of 6 km to fetch water. Indian women spend an average 2.2 hours per day in this activity.¹²
- In India, it is estimated that the national cost of women fetching water is 150 million women working days per year, equivalent to a national loss of income of Rs. 10 billion (approximately US\$208 million).¹³

Easily accessible and sufficient water and sanitation are indispensable for people living with HIV and AIDS



and also for the provision of home-based care to AIDS-affected persons.¹⁴ Water is needed for bathing patients and washing soiled clothing and linen.

Safe drinking water is necessary for taking medicines; access to toilets is necessary for weak patients. Water is required to keep the environment (house and toilets) clean in order to reduce the risk of opportunistic infections. Home-based care requires more water than the 20 liters per capita per day that is considered 'basic access'.¹⁵

In the context of HIV and AIDS, it is especially important that water supply points and toilets are easily accessible and close to where they are needed. This reduces the burden of long distance water collection by caregivers or those who are weak.

Water, Sanitation, and Hygiene, HIV and AIDS, and Gender Perspective

Most of the time the caregivers in households are girls, women, and children, mainly because of the gender constructs and socially defined roles in different cultures. The time they spend on taking care of HIV- or AIDS-affected persons reduces the time they would otherwise have spent on other tasks around the house. Such paucity of time may even impact education, leading to dropouts in many cases.¹⁶

Water, Sanitation, and Hygiene, Household Economy, and Productivity of People Living with HIV and AIDS

- It was found that the economic productivity of women increased due to time saved by a new system of water supply in Gujarat, India.¹⁷

⁹ National AIDS Control Organization. www.nacoonline.org/faqs.htm. India.

¹⁰ Christine van Wijk. December 2003. 'HIV/AIDS and water supply, sanitation, and hygiene.' WELL Factsheet.

¹¹ Report on the Global AIDS Epidemic. 2004. UNAIDS.

¹² The HIV/AIDS Millennium Development Goals. 'What water, sanitation, and hygiene can do—Briefing Note 5.' WELL (www.lboro.ac.uk/well/).

¹³ Water for Life Decade (2005-2015). UN Water (www.un.org/waterforlifedecade/). US\$1 = Rs. 40.60 (as of May 26, 2007). Conversion rates are from www.xe.com; conversions are approximations.

¹⁴ Kamminga, Evelien, and Madeleen Wegelin Schuringa. 'HIV/AIDS and Water, Sanitation, and Hygiene; Thematic Overview Paper.' Royal Tropical Institute (KIT) and International Water and Sanitation Center (IRC).

¹⁵ Howard, G., and L. Bartram. 2003. Domestic water quantity, service level, and health. World Health Organization. Geneva.

¹⁶ Kamminga, Evelien, and Madeleen Wegelin Schuringa. 'HIV/AIDS and Water, Sanitation, and Hygiene; Thematic Overview Paper.' Royal Tropical Institute (KIT) and International Water and Sanitation Center (IRC).

¹⁷ The HIV/AIDS Millennium Development Goals. 'What water, sanitation, and hygiene can do—Briefing Note 5.' WELL (www.lboro.ac.uk/well/).



Lack of availability of safe water may lead to buying of safe water, resulting in additional household expense.¹⁸ Water purification attempted at home may exert an additional burden on caregivers and additional costs on the families. Lack of water can lead to disruption of those productive tasks that are based on availability of water such as farming, thus reducing income. Productivity of infected people goes down due to illnesses while productivity of other family members may go down due to increased burden of care and support of unwell people, again leading to reduced income levels. On the other hand, improved water supply allows the development of income generating work due to time saved and to enterprises that depend on adequate water supply.¹⁹

Water, Sanitation, and Hygiene and Infant Feeding by HIV-affected Women

Clean water is crucial for feeding infants. The chance of a child dying from

diarrhea increases when formula feeds are not prepared with clean water, or when cleaning and water handling practices are not hygienic.²⁰

Water, Sanitation, and Hygiene Among People Living With HIV and AIDS: The WSP-SA Study

In spite of the clear links between water, sanitation, and hygiene, and HIV and AIDS, very few examples of interventions to address the impacts of the former on the latter have been noted so far across the globe. This is especially the case in South Asia (which is estimated as having the highest number of people living with HIV and AIDS after sub-Saharan Africa²¹), and

where significant initiatives to address the links between the two sectors are not known. Recognizing the need for addressing this gap, Water and Sanitation Program-South Asia initiated the process with a study on 'Water, sanitation, and hygiene behavior among people living with HIV and AIDS'.²² The study was conducted among people living with HIV and AIDS and sections of the population in selected areas, both urban and rural, of Tamil Nadu and Andhra Pradesh in India. The study compared the practices and needs of people living with HIV and AIDS in relation to safe water, sanitation, and hygiene. The overall objective of the study was 'to analyze the role of water and sanitation services in mitigating the impact of HIV and AIDS in India'. The study mainly involved (a) a situational analysis of the availability and accessibility of safe water and sanitation for persons with HIV and AIDS and their families; and (b) the dissemination of the results of the study and facilitation of a process to develop strategies to address the results of the study at the state level.

People living with HIV and AIDS were identified and selected for the study with the help of India HIV/AIDS Alliance through its partner agencies in the respective study areas. The selection of respondents for the study through this method has limited the truly representative nature of the sample as the surveyed households were receiving support from the care and support agencies, whereas there are many who are not covered by any support program in this country. A majority of the studies in the HIV and AIDS sector

²⁰ Kamminga, Evelien, and Madeleen Wegelin Schuringa. 'HIV/AIDS and Water, Sanitation, and Hygiene: Thematic Overview Paper.' Royal Tropical Institute (KIT) and International Water and Sanitation Center (IRC).

²¹ Report on the Global AIDS Epidemic. 2006. UNAIDS.

²² 'Water, sanitation, and hygiene behavior among people living with HIV/AIDS: A situational analysis.' Water and Sanitation Program-South Asia.

¹⁸ Ibid.
¹⁹ Ibid.



In spite of recognizing needs for safe water and appropriate sanitation and hygiene practices, barriers were reported by people living with HIV and AIDS in converting knowledge into practices.

have similar limitations due to the practical difficulties in accessing people living with HIV and AIDS owing to confidentiality concerns. However, the conclusions of the study are still valid and are pointers to the stakeholders to seriously look at the identified issues.

Key Findings

People living with HIV and AIDS recognized the need for safe water, appropriate sanitation, and safe hygiene practices better than most of the population. This seemed to be a result of the work of NGOs, in the study area, on HIV and AIDS care and support.

- A significantly ($P < .05$) higher percentage of people living with HIV and AIDS (69 percent), compared with the general population (19 percent), were aware of safe water, sanitation, and hygiene issues.
- A significantly ($P < .05$) higher percentage of people living with HIV and AIDS (71 percent), compared with the general population (55 percent), were aware that boiling can make water safe for drinking.
- A significantly ($P < .05$) higher percentage of people living with HIV and AIDS (20 percent), compared with the general population (12 percent), were aware that safe water is good for health.

Despite various barriers, people living with HIV and AIDS did adopt safer water and hygiene practices than did the general population.

- A significantly ($P < .05$) higher percentage of people living with HIV and AIDS (68 percent), compared with the general population (59 percent), purified water through some method.

- A significantly ($P < .05$) higher percentage of people living with HIV and AIDS (83 percent) boiled water, compared with the general population (69 percent).

- People living with HIV and AIDS spent significantly more (Rs. 50.2 or US\$1.23) than the general population (Rs. 19.8 or US\$0.48) on purchasing water.

- A significantly ($P < .05$) higher percentage of people living with HIV and AIDS washed hands with water and soap after defecation (61 percent), compared with adult male (47 percent) and female (51 percent) members in the general population households.

Though people living with HIV and AIDS recognized the need for safe water, appropriate sanitation, and hygiene practices better than most people, barriers were reported in converting knowledge into practice, such as limitations in time, economic constraints, lack of individual household toilets, lack of fuel for boiling water, and water scarcity.

- Lack of time for boiling water was reported to be a barrier by 35 percent people living with HIV and AIDS, compared with 23 percent of the general public. A significantly ($P < .05$) higher percentage of HIV positive-persons mentioned economic constraints (HIV+: 66 percent; general public: 44 percent) and lack of individual household toilets (HIV+: 40 percent; general public: 27 percent). Lack of adequate fuel was also reported as a major constraint.

People living with HIV and AIDS had less access to water and sanitation facilities than the general public.

- There were individual household sources of drinking water for only 24 percent of people living with HIV and AIDS, compared with 43 percent for the general population.
- A higher percentage of HIV-positive persons (57 percent), compared with the general public (53 percent), practiced open defecation.

There existed significant gaps in hygiene practices among people living with HIV and AIDS and the general population.

- A very high percentage of HIV-positive persons (96 percent) and general public (95 percent) put their hands inside the water container to take out water even when using mugs, jugs or cups.

People living with HIV and AIDS reported higher levels of diarrhea and vomiting prior to the study period than the general public. They also reported economic and psychological impacts of HIV and AIDS.

- A significantly ($P < .05$) higher percentage of HIV-positive persons reported diarrhea (HIV+: 25 percent; general public: 5 percent) and vomiting (HIV+: 16 percent; general public: 7 percent) during the three months prior to the survey.
- Reported impacts of HIV and AIDS were mostly psychological (60 percent) and economic (52 percent).

NGOs and networks of people living with HIV and AIDS have incorporated messages on safe water and hygiene practices into their efforts. However, communication is inconsistent and not comprehensive. There is potential and interest among a number of stakeholders to incorporate better interventions and communication to



improve water, sanitation, and hygiene practices among people living with HIV and AIDS.

Conclusions

The study draws attention towards the greater and special needs of people living with HIV and AIDS regarding water, sanitation, and hygiene as compared to the general population. The study also demonstrated lesser access to water and sanitation facilities and barriers in access to safe water and hygiene practices by study participants who are people living with HIV and AIDS. The needs for safe water and sanitation were established as greater with frequent illnesses, especially diarrhea and vomiting, among people living with HIV and AIDS participating in the study. In spite of recognizing needs for safe water and appropriate sanitation and hygiene practices, barriers were reported by people living with HIV and AIDS in converting knowledge into practices. The barriers were mostly related to lack of financial resources.

In the study, a significantly ($P < .05$) higher proportion of people living with HIV and AIDS households were found to be below the poverty line (65.8 percent) compared with general population households (41.5 percent). In fact, the proportion of people living with HIV and AIDS who had no income (15.7 percent) was significantly ($P < .05$) higher than that of the general population (0.5 percent)—indicating that people living with HIV and AIDS participating in the study belonged to marginalized groups with very low financial resources.

The stakeholders working in the HIV and AIDS sector appreciated the need for focusing on water, sanitation, and hygiene needs of people living



with HIV and AIDS. However, the stakeholders involved in the water, sanitation, and hygiene sector could not appreciate the need for linkages between the two, as this issue was never brought to their attention. This

fact further indicates a need for appropriate documentation and dissemination of the linkages not only between water, sanitation, and hygiene, but also between them and the HIV and AIDS sector.

People living with HIV and AIDS are often from the most marginalized groups with minimal inclusion and involvement in mainstream structures, limiting their access to mainstream services.

The Consultations

Water and Sanitation Program-South Asia organized two state-level consultations (in Tamil Nadu and Andhra Pradesh) and a national-level consultation as a follow-up to the study conducted on 'Water, sanitation, and hygiene behavior of people living with HIV and AIDS'.

Both state-level consultations were attended by State AIDS Control Society officials, representatives from networks of people living with HIV and AIDS, NGOs working in the HIV and AIDS as well as water, sanitation, and hygiene sectors, functionaries from the two sectors, and representatives from funding agencies with programs on either sector operating in the state.



Table 1: Linkages

Development Agency	Activities in Water, Sanitation, and Hygiene	Activities in HIV and AIDS
UNICEF	Total Sanitation Campaign, Swajaldhara Project, School Sanitation Program of Government of India in 22 states	Prevention of Parent to Child Transmission of HIV/AIDS (PPTCT), School AIDS Education Program, Care and Support Program through networks of, and NGOs working with, people living with HIV and AIDS
USAID	Urban Health Program	HIV and AIDS prevention and care programs in Maharashtra and Tamil Nadu
SIDA	Grants to UNICEF for National Rural Water Supply and Sanitation Program and WSP Urban Program	Planning to support multilaterals under National AIDS Control Program-III
DfID	Urban Water and Sanitation Program and Village Hygiene and Sanitation Program	Supports National AIDS Control Program
World Bank and WSP-SA	WSP-SA supports Total Sanitation Campaign	World Bank HIV and AIDS division supports National AIDS Control Program



The national consultation was inaugurated by the Director General of the National AIDS Control Organization (NACO) and was attended by representatives of The World Bank, World Health Organization, United Nations' agencies, bilateral and international donor agencies, and the Tamil Nadu State AIDS Control Society.

The consultations aimed at sharing findings, building consensus on the need for linkages between the two sectors, and identifying possible actions, activities, and strategies for establishing such linkages.

The focus was on identifying further actions among people living with HIV and AIDS, as well as at the level of the community or service providers.

Exploring Scope of Linkages

The national consultation examined the ongoing activities of the participants to explore possibilities of linkages between HIV and AIDS and water, sanitation, and hygiene.

It was evident that many of the development agencies worked on both the sectors; there have, however, not been any linkages between programs under both of them.

The participant agencies:

- Appreciated the need to focus on linkages between HIV and AIDS as well as water, sanitation, and hygiene activities.
- Identified the need to coordinate to improve water, sanitation, and hygiene behavioral change communication and integrate it into HIV and AIDS training materials as an immediate actionable step.

Recommendations

Though the spectrum of interventions required at different levels range from policy changes to community level actions, some of the immediate and easily implementable actions that emerged from the WSP-SA study are related to behavior change

communication, capacity building, integration among the two sectors, and addressing the barriers to safe water, sanitation, and hygiene behavior among people living with HIV and AIDS.

The key recommendations emerging as a result of the study and the consultations are provided in Box 1.

Box 1: Key Recommendations Emerging from the Study and Consultations

- Improve behavior change communication with people living with HIV and AIDS, caregivers, and other family members.

Train personnel involved in this communication, such as NGOs, professionals, volunteers, peer educators, and service providers.
- Raise awareness through information dissemination among both HIV and AIDS sector staff and water, sanitation, and hygiene sector staff at all levels.
- Develop correct and comprehensive behavior change communication material for people living with HIV and AIDS on water, sanitation, and hygiene, building on existing material.

Build monitoring tools to facilitate maintenance of safe water, sanitation, and hygiene behavior.
- Support NGOs working on HIV and AIDS, and networks of people living with HIV and AIDS, to establish linkages with water, sanitation, and hygiene implementing agencies and structures to:
 - Improve behavior change communication messages and interventions.
 - Monitor and advocate improved accountability and access to safe water and sanitation facilities for the community and existing water, sanitation, and hygiene programs.
- Initiate capacity building, especially skills development of program managers, implementers, NGOs, health professionals, peer educators, volunteers, caregivers, and people living with HIV and AIDS.
- Reduce barriers to improve water, sanitation, and hygiene behavior among people living with HIV and AIDS by assessing the feasibility of supporting practical, effective, and locally appropriate commodities that will improve safe water and sanitation.

The study conducted by the Water and Sanitation Program-South Asia is one of the pioneering efforts in the direction of exploring linkages between water, sanitation, and hygiene, and HIV and AIDS.

Programmatic Implications

Research studies and literature exploring links between the two sectors—water, sanitation, and hygiene as well as HIV and AIDS—reach the common conclusion that there is a strong link between the two and an urgent need to establish necessary interventions to address the gaps.

Different studies have come up with recommendations and

strategic guidelines at the policy, institutional, program, community, and target group level.

IRC-International Water and Sanitation Resource Center has published Thematic Overview Papers exploring different perspectives of the linkages between water, sanitation, and hygiene, and HIV and AIDS, and discussing programmatic implications.

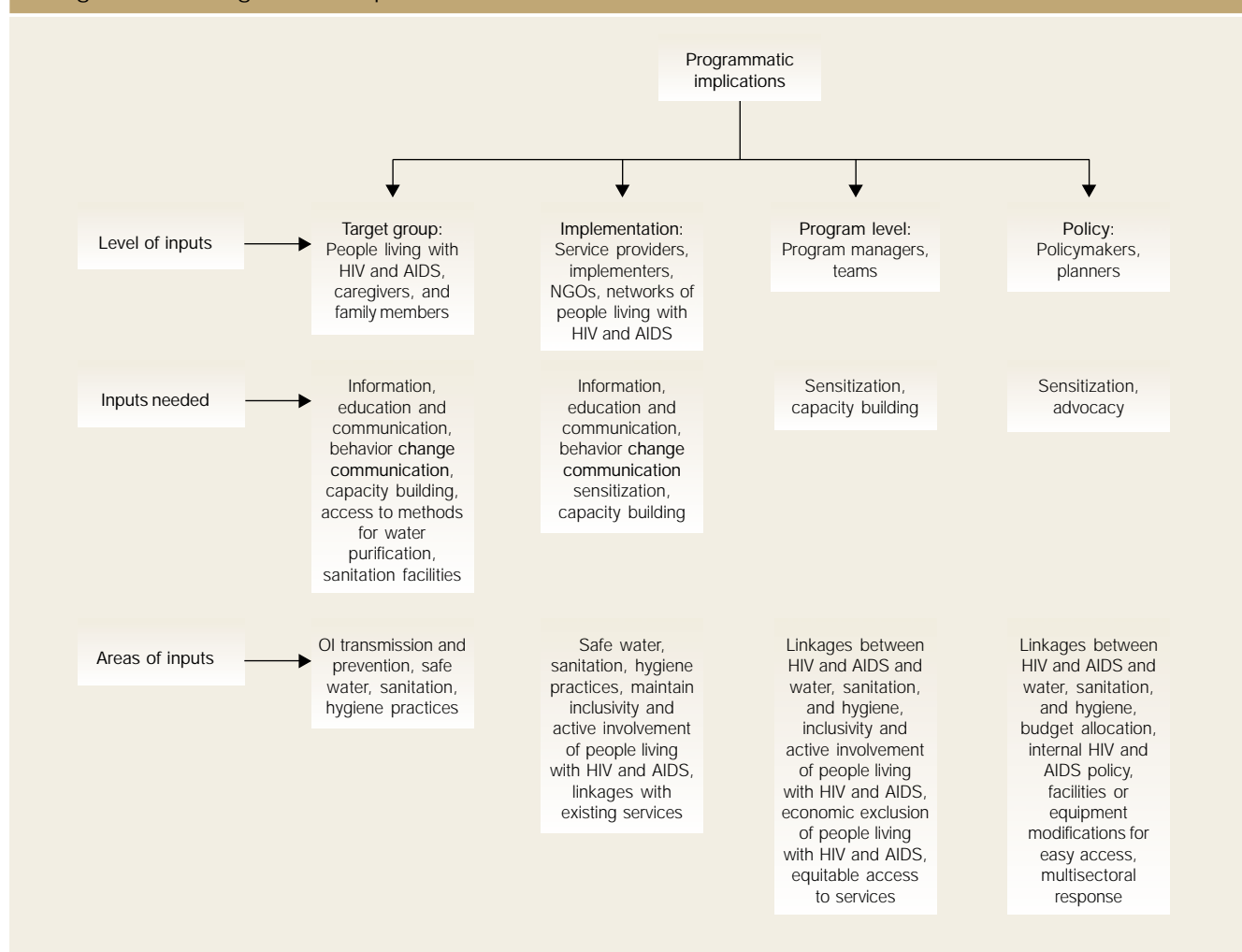
A number of programmatic recommendations, over and above the recommendations from the WSP-SA

study, emerge from the conclusions of different research studies, Thematic Overview Papers and documentation of programmatic experiences.

Some of these, which may be relevant in India and other South Asian countries, are:

- People living with HIV and AIDS are often from the most marginalized groups with minimal inclusion and involvement in mainstream structures, limiting their access to mainstream services. Program

Figure 1: Linkages and Implications





planners and implementers should ensure access of water and sanitation services even to the most marginalized. A rights-based approach should be emphasized to empower and enable rights holders to access services.

- The scheme of services and cost structures should be designed such that it can address the economic exclusion of people living with HIV and AIDS through measures which can be adopted by them. Pro-poor financing schemes should be included.
- The exclusion of people living with HIV and AIDS, due to associated stigmas, should be addressed.
- Health and hygiene education should be integrated to promote awareness of the close linkages between water, sanitation, hygiene and health, particularly of people living with HIV and AIDS.
- Policy level efforts for multisectoral responses and linkages with other sectors for economic empowerment, health services, and sustainable livelihood should be made.

The study conducted by WSP-SA is one of the pioneering efforts in the direction of exploring linkages between water, sanitation, and hygiene and HIV and AIDS, though limiting in terms of sample size and wider representation. However, it draws attention to:

- Importance of further exploration of linkages between water, sanitation, and hygiene and HIV and AIDS.
- Wider dissemination of the study findings and of the other existing information.

Water and Sanitation Program-
South Asia
World Bank
55 Lodi Estate
New Delhi 110 003
India

Phone: (91-11) 24690488, 24690489
Fax: (91-11) 24628250
E-mail: wspsa@worldbank.org
Web site: www.wsp.org

ABOUT THE SERIES

WSP Field Notes describe and analyze projects and activities in water and sanitation that provide lessons for sector leaders, administrators, and individuals tackling the water and sanitation challenges in urban and rural areas. The criteria for selection of stories included in this series are large-scale impact, demonstrable sustainability, good cost recovery, replicable conditions, and leadership.

- Exploration of possibilities of programmatic linkages between water, sanitation, and hygiene programs and HIV and AIDS interventions.
- Integration of communication on messages related to safe water, sanitation, and hygiene into HIV and AIDS interventions.



June 2007

WSP MISSION

To help the poor gain sustained access to water and sanitation services.

WSP FUNDING PARTNERS

The Governments of Australia, Austria, Belgium, Canada, Denmark, France, Ireland, Luxembourg, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom, the United States of America; the United Nations Development Programme, The World Bank, and the Bill and Melinda Gates Foundation.

AusAID provides WSP-SA programmatic support.

ACKNOWLEDGMENTS

Peer Reviewers: Katherine Anne Tulenko, Linda B. Sussman, Karla Chaman, Shafiul Azam Ahmed

Background Research: ORG Centre for Social Research, New Delhi

Task Manager: Suseel Samuel

Author: Rajendra B. Jani

The findings, interpretations, and conclusions expressed are entirely those of the author and should not be attributed in any manner to The World Bank, to its affiliated organizations, or to members of its Board of Executive Directors or the companies they represent.

Editor: Anjali Sen Gupta
Pictures by: Sajid Din Darokhan
Created by: Write Media
Printed at: PS Press Services Pvt. Ltd.

5. Give up to three subjects/issues in the Water Supply and Sanitation sector that interest you and you would like to know more about:

i)

ii)

iii)

6. Do you know anyone else who might benefit from receiving our publications?
If yes, provide the following details (optional)

Name:

Designation:

Organization:

Address:

.

.

Phone Numbers:

E-mail:

Area of work: Government / NGO / Private Sector / Academia / Consultant / Bilateral Agency / Dev Bank / any other

7. Please provide your particulars:

Name:

Designation:

Organization:

Address:

.

.

Phone Numbers:

E-mail:

Area of work: Government / NGO / Private Sector / Academia / Consultant / Bilateral Agency / Dev Bank / any other

8. Indicate your area of interest:

☐ Water

☐ Sanitation

☐ Rural

☐ Urban

Water and Sanitation Program-South Asia

E 32 Agargaon, Sher-e-Bangla Nagar
Dhaka 1207, Bangladesh
Phone: (880-2) 8159001-14
Fax: (880-2) 8159029-30

55 Lodi Estate
New Delhi 110 003, India
Phone: (91-11) 24690488-89
Fax: (91-11) 24628250

20 A Shahrah-e-Jamhuriat
Ramna 5, G-5/1
Islamabad, Pakistan
Phone: (92-51) 2279641-46
Fax: (92-51) 2826362

E-mail: wspsa@worldbank.org Web site: www.wsp.org



The Water and Sanitation Program is an international partnership for improving water and sanitation sector policies, practices, and capacities to serve poor people

Discover
WSP's e-newsletter
ACCESS
for the latest
global sector news and
learning resources.
10,000
subscribers
already have...

You can subscribe at:
www.smartbrief.com/access/

To learn more about the Water and
Sanitation Program or to receive
our electronic newsletter, ACCESS,
please write to: **info@wsp.org**