

Wasrag Technology Series

Guidelines for Implementing Sustainable Health & Hygiene Programs

Health and Hygiene in Rotary WASH Projects

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Water and Sanitation Rotarian Action Group



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Introduction

This section of the Wasrag site assumes that you have already identified a WASH-related need in a target community, that you are looking for assistance and guidance to plan and carry out an appropriate solution, and that you are wondering about inclusion of a health and hygiene component in your project.

In some cases, your club will be working closely with another Rotary Club. In other cases, your efforts may be best directed to assisting a non-Rotary group that has gained trust and respect in the community which already has a program in place. Rotary applauds your efforts, and wants to assure that supported programs are **effective, beneficial, and sustainable**. The information here is intended to help you structure and execute the best program to meet that goal. It might well be that inclusion of health and hygiene education and related activities will not only assist attaining water and sanitation goals, but also assure that the improvements your project can provide will be longer lasting and more sustainable.

Regardless of the project that you have chosen, it is important to give thought to what factors (for example, geographical, environmental, economic, and political) have contributed to the present situation. How does the community currently deal with current issues, what steps are needed to make positive changes, how changes can be made permanent, and how your efforts will affect the community? Be sure to involve the community itself in the planning process – they will tell you what their hopes are for themselves and their children and are the best resource to detail, what problems exist, what priorities they give each problem, who else is already working on problem in the community, and where they want our help. It will also be important to talk with stakeholders, such as local community based organizations, teachers, health workers and community leaders, in order to understand what has already been done, what is planned, and where Rotary can make a useful contribution.

The Internet is a good place to begin your planning if the international partner is doing the planning. The country's Embassy or Consular websites and staff may be good places to start. They can give you insights on the needs of their communities in general, and can help identify groups already working in-country and internationally. In addition, Wikipedia [<http://www.wikipedia.org>] and the U.S. Central Intelligence Agency's World Fact Book [<https://www.cia.gov/library/publications/the-world-factbook/geos/us.html>] provide useful information on the people, history, culture, politics, and economics of the country.

Other sections of this Wasrag website will provide you with specific tools and training modules designed to help you to better define, plan, and successfully carry out your specific program. The US Agency for International Development (USAID), the World Health Organization (WHO), and the United Nations Children's Fund (UNICEF) have prepared excellent health and hygiene training programs, and those are discussed in greater depth at the end of this section.

What can Rotary bring to WASH problem solving?

Rotary is a truly global non-political organization. With over 34,000 local clubs and over 1.2 million members, Rotary has a network of dedicated and talented people that reaches into nearly every community. Local clubs on the ground can combine with other international clubs and work alongside and coordinate with other governmental organizations and NGOs to help focus resources and expertise to improve the lives of people around the world.

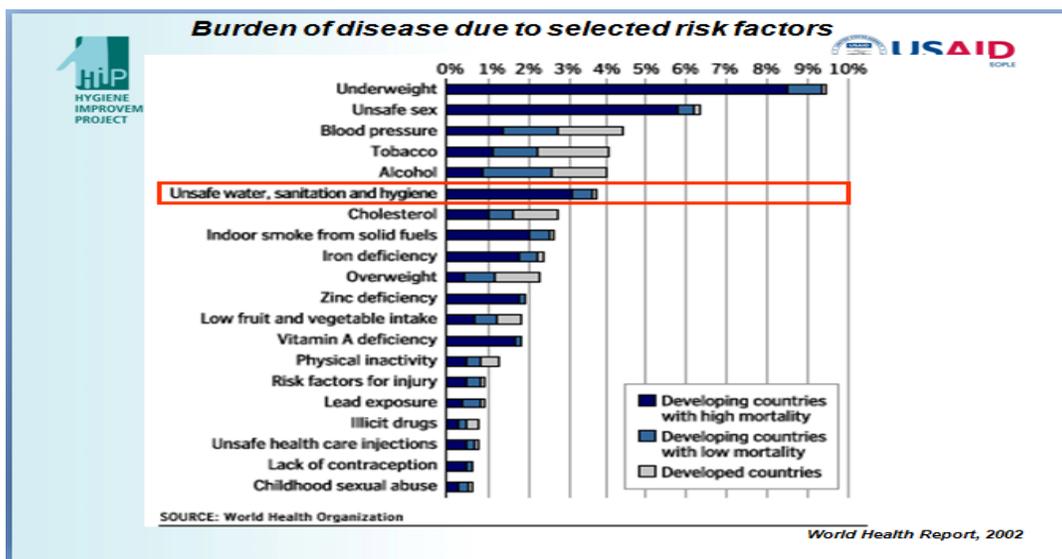
Rotary has identified the six areas of need where Rotarians provide the most humanitarian service. They are Rotary's "areas of focus":

1. Peace and conflict prevention/resolution
2. Disease prevention and treatment
3. Water and sanitation
4. Maternal and child health
5. Basic education and literacy
6. Economic and community development

Rotary is developing programs that are effective, beneficial, and sustainable. Above all, programs should be permanent solutions, not just temporary fixes. That goal requires a higher level of strategic thinking, and the modules and tools provided here are designed to facilitate your planning efforts. To this end, Rotary encourages clubs and districts to look beyond a single element for their projects (for example, drilling a water well) and address other elements that will result in a sustainable project

Why include health and hygiene in Wasrag projects?

As shown on 2002 World Health Organization (WHO) chart below, within developing countries, unsafe water, poor sanitation and poor hygiene together create one of the highest risk factors for disease, and also contribute to deaths from malnutrition. And in more recent WHO data from 2008, diarrheal diseases caused by poor water quality, sanitation, and hygiene have outstripped HIV/AIDS as a leading cause of death worldwide (8.2% of deaths compared to 7.8% for HIV).



What diseases are related to water, sanitation, and hygiene?

Diarrhea

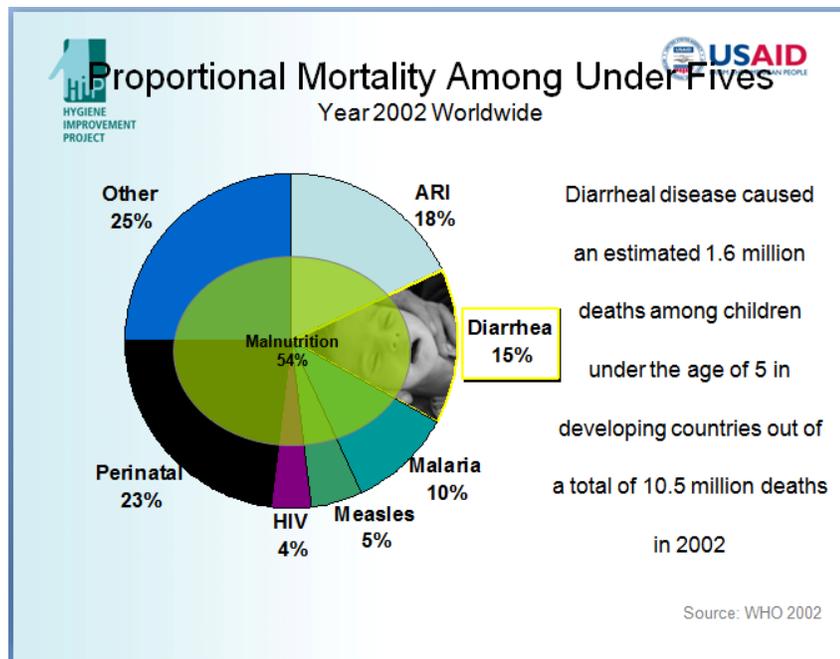
Quest University, Canada, has produced the following 4-minute YouTube video that is designed to spread awareness about diarrhea and its effects on children and progress in developing countries. <http://www.youtube.com/watch?v=482ijwFPyck>

Globally, there are about **two billion cases** of diarrhea per year causing 8.2% of all deaths in developing countries - mostly on young children. Diarrheal disease is the second leading cause of death in children under five years old, and is responsible for **killing approximately 1.6 million children** every year. In developing countries, children under three years old have an average of three episodes of diarrhea every year. Diarrhea can last several days, and can leave the body without the water and salts that are necessary for survival. Most people who die from diarrhea actually die from severe dehydration and fluid loss. Children who are malnourished or have impaired immunity are most at risk of life-threatening diarrhea. And diarrhea can become a vicious cycle; each episode deprives the child of the nutrition necessary for growth, making them malnourished and more likely to die from the next bout of diarrhea or from another illness or infection.

(Reference: WHO website: <http://www.who.int/mediacentre/factsheets/fs330/en/index.html>)

What causes diarrhea?

Diarrhea is caused by **infections** from any of a host of bacteria, viruses and parasites, most of which are spread by water contaminated with feces from humans or animals. Infection is more common when clean water is in short supply for drinking, cooking and cleaning. Food that is contaminated during irrigation or prepared or stored in unhygienic conditions can also cause diarrhea. Fish and seafood from polluted water may also cause diarrhea.



How effective are improvements in water, sanitation, & hygiene in reducing diarrhea?

Addressing health and hygiene issues while developing water and sanitation projects may have a profound positive impact on the overall health of a community, such as:

- Point of use (POU) water treatment can result in a 30% to 40% reduction in diarrhea cases.
- Safe Storage of treated water can result in at least 20% reduction in diarrhea cases.
- Proper hand washing can give 30 to 50% reduction in diarrhea cases.
- Proper sanitation with basic, low-cost systems can result in 30% or more reduction in diarrhea.

(Source: USAID Hygiene Improvement Project)

Reduction of deaths due to diarrhea can best be accomplished by combining all the above with:

- Breastfeeding exclusively for a child's first six months,
- Good personal and food hygiene, health education about preventing diarrhea, and
- Immunization against rotavirus (where available).

The USAID training modules listed below show how to include health and hygiene in your Rotary WASH project.

What other diseases are related to Water Sanitation, and Hygiene?

An excellent description of waterborne diseases caused by protozoa, parasites, bacteria and viruses, as well as details on how each disease is transmitted and its symptoms, can be found at:

http://en.wikipedia.org/wiki/Waterborne_diseases

Many other diseases are water related. The WHO lists 24 that are of major interest internationally.

Malaria is closely related to the availability of water. It is carried by mosquitoes whose larvae develop in different kinds of water bodies, depending on the type of mosquito. Construction of irrigation systems, reservoirs, and other ways to improve the water situation can lead to dramatic increases in malaria if they make it easier for mosquito larvae to grow and thrive.

Cyanobacteria, or blue-green algae, thrive in calm, warm, nutrient-rich water and produce toxins that are dangerous to humans and animals. Changing climate, and runoff from human settlements, agriculture and industry, have dramatically increased algal blooms in recent years, putting drinking and recreational water at risk.

Onchocerciasis (Trachoma), or river blindness, is a parasitic disease carried by an insect that breeds in water. It is the world's second leading infectious cause of blindness. Controlling insect breeding sites in rivers is one of the pillars of prevention.

Scabies is a contagious skin infection that spreads rapidly in crowded conditions and is found worldwide. Improved personal hygiene plays an important part in the prevention and control of scabies and depends on access to an adequate water supply and soap.

Lead poisoning affects children in particular, leading to sometimes-irreversible mental retardation and behavior problems, and sometimes death. Lead pipes or water contaminated with lead from industry can be a source of lead poisoning as are contaminated food and air.

Where can I find more information on water-related disease?

WHO Fact sheets on major water-related diseases and conditions can be found at http://www.who.int/water_sanitation_health/diseases/diseasefact/en/index.html.

Links for further information on several diseases and conditions are below.

- [Dracunculiasis \(guinea-worm disease\)](#) [Anaemia](#)
- [Arsenicosis](#) See also: [Arsenic in drinking-water](#)
- [Ascariasis](#)
- [Campylobacteriosis](#). See [other WHO related activities](#)
- [Cholera](#). See also [other WHO related activities](#)
- [Cyanobacterial Toxins](#)
- [Dengue and Dengue Haemorrhagic Fever](#). See [other WHO related activities](#)
- [Diarrhoea](#) . See [other WHO related activities](#)
- [Drowning](#)
- [Fluorosis](#)
- [Hepatitis](#). See [other WHO related activities](#)
- [Japanese Encephalitis](#). See [other WHO related activities](#)
- [Lead Poisoning](#). See also [lead in drinking-water](#)
- [Leptospirosis](#)
- [Malaria](#) . See also: [WHO Activities on Malaria](#)
- [Malnutrition](#) . See also [Global Database on Child Growth and Malnutrition](#)
- [Methaemoglobinemia](#)
- [Onchocerciasis \(River Blindness\)](#). See [other WHO related activities](#)
- [Ringworm \(Tinea\)](#)
- [Scabies](#)
- [Schistosomiasis](#). See [other WHO related activities](#)
- [Spinal Injury](#)
- [Trachoma](#). See [other WHO related activities](#)
- [Typhoid and Paratyphoid Enteric Fevers](#). See [WHO related activities](#)

Other Education and Training Materials

Numerous sources of material that can help prepare interested Rotarians for hygiene development projects are available on the internet. A few of those are listed at the end of this section, but some of the most complete and relevant material has been prepared by the US Government, Agency for International Development (USAID).

USAID Training Materials

USAID managed the **Hygiene Improvement Project (HIP)** over a six-year period (2004–2010). HIP aimed to reduce diarrheal disease prevalence through the promotion of key hygiene improvement practices, such as hand washing with soap, safe disposal of feces, and safe storage and treatment of drinking water at the household level. The project was funded by the USAID Bureau for Global Health, Office of Health, Infectious Diseases and Nutrition, and was led by the Academy for Educational Development in partnership with ARD Inc., the IRC International Water and Sanitation Centre in the Netherlands, and The Manoff Group, Inc.

As part of that project, USAID has published a very thorough "**Guide for Training Outreach Workers**" with 243 pages of information. The complete guide, which includes 7 training modules, with sections on objectives and self-assessment can be downloaded from the USAID website using the following links:

- [Guide for Training Outreach Workers](#)
Full Document of 243 pages
[Guide for Training Outreach Workers \(Full Document\).pdf](#) (1.1 MB)
- [Training Guide Modules](#)
Individual modules in PDF and Word for the "Guide for Training Outreach Workers"
- [Outreach Worker's Handbook](#)
Serves as a reference guide for outreach workers to use during training.
[Outreach Worker's Handbook.pdf](#)
- [Resource Materials](#)
Provides examples of visual aids for training outreach workers. These resources correspond to the modules of the "Guide for Training Outreach Workers"
- [Introduction](#)
[Guide for Training Outreach Workers - Introduction.pdf](#) (278.1 kB)
- [Module 1: Introductory Activities](#)
[Guide for Training Outreach Workers - Module 1.pdf](#) (288.3 kB)
- [Module 2: Making Water Safe to Drink](#)
[Guide for Training Outreach Workers - Module 2.pdf](#) (346.4 kB)
- [Module 3: Hand Washing](#)
[Guide for Training Outreach Workers - Module 3.pdf](#) (327.0 kB)

- **Module 4: Handling Feces**
[Guide for Training Outreach Workers - Module 4.pdf](#) (453.2 kB)
- **Module 5: Interpersonal Communication**
[Guide for Training Outreach Workers - Module 5.pdf](#) (220.8 kB)
- **Module 6: Action Planning**
[Guide for Training Outreach Workers - Module 6.pdf](#) (104.8 kB)
- **Module 7: Tracking Progress**
[Guide for Training Outreach Workers - Module 7.pdf](#) (107.6 kB)
- **Appendices**
[Guide for Training Outreach Workers - Appendices.pdf](#) (294.8 kB)

World Health Organization (WHO) Publications

- Water Supply, sanitation and hygiene development:
http://www.who.int/water_sanitation_health/hygiene/en/
- Evaluating household water treatment options:
http://www.who.int/water_sanitation_health/publications/2011/household_water/en/
- Animal waste, water quality and human health
http://www.who.int/water_sanitation_health/publications/2012/animal_waste/en/index.html
- Animal waste, water quality and human health
http://www.who.int/household_water/resources/toolkit_monitoring_evaluating/en/index.html
- The American Journal of Tropical Medicine and Hygiene
<http://www.ajtmh.org/>
- Monitoring and evaluation toolkit:
http://www.who.int/household_water/resources/toolkit_monitoring_evaluating/en/index.html
- The Hygiene Centre at the London 'School of Hygiene and Tropical Medicine
<http://www.hygienecentral.org.uk/>
- Pulitzer Center Reporting: stressing water, Sanitation and hygiene for Children in Developing Countries
<http://pulitzercenter.org/blog/news-points/water-sanitation-hygiene-children-developing-countries>
- Sanitation and hygiene in developing countries: identifying and responding to barriers
<http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/4000.pdf>

Other Hygiene related sites of Interest to Rotarians

The following has been selected from thousands of sites available on the internet.

The Global Public-Private Partnership for Handwashing has great resources for handwashing, including year-by-year toolkits for Global Handwashing Day. <http://www.globalhandwashing.org/>

WELL Publications and factsheets. WELL is a UK based Water, Engineering and Development Center at Loughborough University.

http://www.lboro.ac.uk/well/resources/Publications/Publications%20list.htm#ENVIRONMENTAL_SANITATION

- [Anaerobic treatment of municipal wastewater](#)
- [Child survival and environmental health](#)
 - [Regional Annex: East Africa](#)
- [Ecological Sanitation](#)
- [Effectiveness of water quality intervention in preventing diarrhea](#)
- [Emptying Pit Latrines](#)
- [Evaluation of hygiene promotion](#)
- [Excreta, flies and trachoma](#)
- [Health impact of handwashing with soap](#)
- [Health impacts of improved household sanitation](#)
- [HIV/Aids and water supply, sanitation and hygiene](#)
- [Hygiene promotion](#)
- [Measuring the health impact of water and sanitation](#)
- [On-site sanitation in areas with a high groundwater table](#)
- [Personal hygiene behavior](#)
 - [Regional Annex: East Africa](#)
- [School sanitation and hygiene education](#)
 - [Regional Annex: Ghana](#)
- [Social marketing: A consumer-based approach to promoting safe hygiene behaviours](#)
- [Some global statistics for water and sanitation related diseases](#)
- [Sustaining hygiene behaviors](#)
- [The process for sanitation marketing](#)
- [Waste disposal in developing countries](#)
 - [Regional Annex: Ghana](#)
- [Why promote sanitation](#)

Home Hygiene in Developing countries: 157 pages, from the International Scientific Forum on Home Hygiene. A training resource on hygiene for and health professionals in developing countries' teachers, community nurses, community workers

Home Hygiene in Developing Countries Prevention of infection in the home and the peri-domestic setting:

[http://www.ifh-homehygiene.org/IntegratedCRD.nsf/571fd4bd2ff8f2118025750700031676/19155AB46073E67F8025752200546D83/\\$File/IFH-WSSCC-Training-Resource_light.pdf](http://www.ifh-homehygiene.org/IntegratedCRD.nsf/571fd4bd2ff8f2118025750700031676/19155AB46073E67F8025752200546D83/$File/IFH-WSSCC-Training-Resource_light.pdf)

For much more please search the Internet for "Hygiene in Developing Countries."

Test

Choose the best answer.

1. The leading cause of death in the developing world is: () lower respiratory infections; () diarrheal diseases; () HIV/AIDS; () malaria.

Answer: lower respiratory infections are the leading cause of death in the developing world. Diarrhea is #2.

2. Diarrhea is most dangerous for: () the elderly; () pregnant women; () children under five.

Answer: Diarrheal disease is the second leading cause of death in children under five years old, and is responsible for killing 1.5 million children every year.

3. Diarrhea can be reduced by hand washing by as much as: () 5-10%; () 15-25%; () 30-50%.

Answer: Results vary, but studies show that hand washing reduces diarrhea by as much as 30-50%.

4. The number of diseases and health conditions carried by or related to water is more than: () 5; () 10; () 15; () 20.

Answer: The World Health Organization lists 24 major diseases or conditions that are carried by or directly related to water.

5. Rotary water and sanitation projects should include health and hygiene because:

() Projects that include health and hygiene interventions such as hand washing will have more chance of improving people's health

() We need to know what is making people sick in order to choose the right project

() If we don't consider health and hygiene, our project may have unintended consequences that make the situation worse

() We will get more buy-in from local people; () All of the above.

Answer: All of the above.

Checklist for health and hygiene projects

This checklist is primarily designed for Rotarians visiting a community in which they are considering a WASH project. However, it may also be useful for community members for the purpose of focusing in on the health and hygiene issues that their community faces. Please also refer to two other Wasrag Technical Guidelines on Water and Sanitation, and the checklists they contain:

- Wasrag Water Technical Guideline:
http://media.greennexus.com/Wasrag/Articles_of_Interest/Water_Supply/General/Guidelines_Water_Sept2012sm.pdf
- Wasrag Sanitation Technical Guideline:
http://media.greennexus.com/Wasrag/Articles_of_Interest/Sanitation/General/Guideline_Sanitation_10_05_2012sm.pdf

Diseases and Impact

1. What symptoms and diseases are significant problems in your community? What symptoms and problems do they cause for children, mothers, elderly or others (rashes, diarrhea, missing school or work, etc.)?
2. Which of these are waterborne or water-related diseases, dirt-borne, or from other uses?
3. What benefit or impact would happen, for community and personal health, if these were reduced or eliminated?

Facilities and equipment

4. What toilets, latrines, or other facilities do families have for disposal of feces?
5. What toilets, latrines or facilities do schools and child care centers have for disposal of feces?
6. Is water available in the home? At schools and child care centers? In what quantities? All day or part day? What is the quality of this water?
7. What provision is there for disposal of household and school blackwater (liquid wastewater from toilets)? For animal urine and feces? For grey water (from clothes washing, bathing, kitchen uses)? For solid waste and refuse (kitchen scraps, ?
8. Are there holding ponds, canals, buckets or temporary water containers that can grow mosquitoes and other disease vectors?
9. Are hygiene products such as soap and hand washing stations available in rural clinics? In schools, and for outside toilets? At homes, and for outside toilets?

Beliefs and practices

10. Is open defecation practiced, by adults or children? What proportion of people openly defecate as compared to using toilets?
11. What are the community's chief concerns about hygiene, if any? Do community leaders, women, and other influencers agree on these?
12. What do they know about the connection between hygiene and illness?

13. Is there presently a “demand” for toilets, handwash stations, training?
14. What is the normal educational level achieved, and health awareness of community members – leaders? Women? Children?
15. Who are respected sources of knowledge and influence in the community?
16. Are there particular cultural, religious or superstitious beliefs about hygiene?
 - a. What are they?
 - b. How deeply held are they?
 - c. How have they changed over the last 20 or 5 years?
 - d. How can you tap into these beliefs to support your hygiene program?
 - e. Or other beliefs?
17. Do people wash their hands at key times? (Before preparing food, before eating, after using the toilet, after cleaning up a child’s feces, after handling animals, before and after caring for someone who is sick) (**Note:** Listen to the answer, but also observe carefully what people actually do, in several households, community buildings and schools – they are often very different.)

Planning an intervention

18. Who is your target audience? (e.g. women at household level, schoolchildren)
19. Who influences how the target audience behaves? (e.g. mothers-in-law, husbands, teachers, religious leaders)
20. What are the target audience’s riskiest behaviors? (e.g. around feces disposal, safe water, handwashing, other practices) What are the priorities for change?
21. What are some simple messages around behavior change that would be appropriate and effective for this community, target group and influencers?
22. What would motivate people to change/create a demand for change? (e.g. CLTS, peer pressure, pride in a new toilet or handwash station)
23. How will you communicate messages? Who will carry the messages, convincingly?
 - a. Rotarians? Local visiting health officials? Influential women or leaders? Or some combination?
 - b. What methods (primarily visual, nonverbal) will be used? (demonstrations, posters, reminder signs, etc.)
 - c. How will they be reinforced, and become part of the social fabric?
24. How can the behavior change be measured?
 - a. Health measures, diarrhea incidence?
 - b. School attendance?
 - c. Personal feelings of good health?
 - d. More productive hours per day?
25. How can the behavior change be sustained? (change back is always a risk)
 - a. Might there be an extrinsic reward or recognition?
 - b. How will peers and the community keep the behavior sustained without Rotary’s involvement?