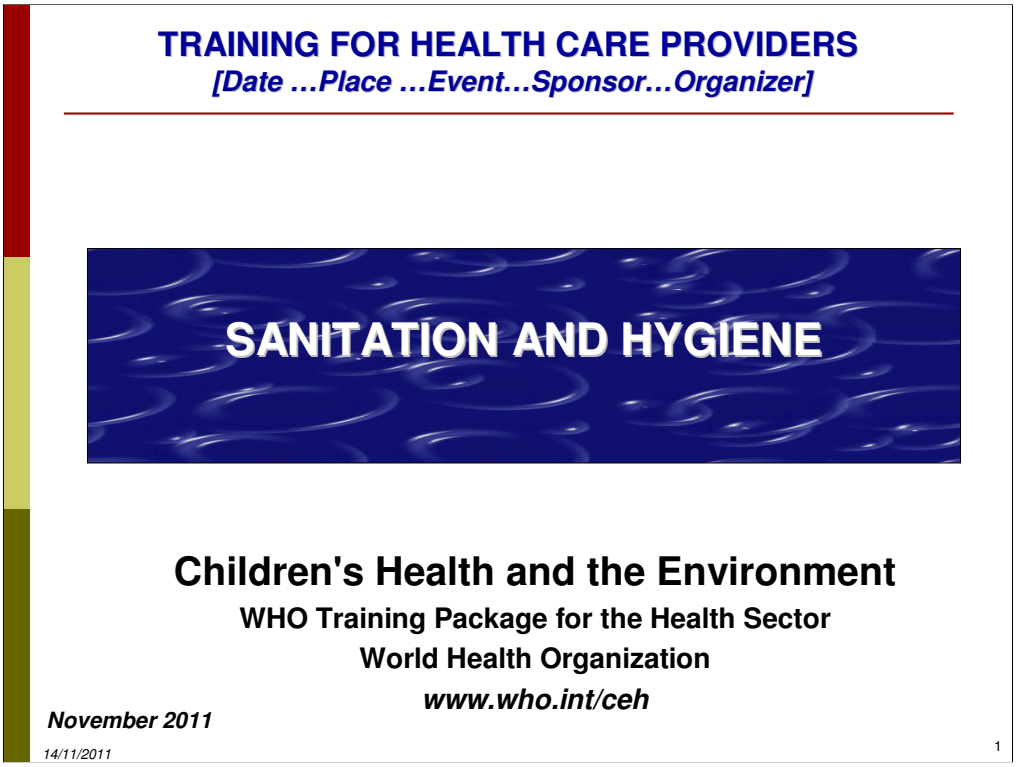


<<NOTE TO USER: Please add details of the date, time, place and sponsorship of the meeting for which you are using this presentation in the space indicated.>>

<<NOTE TO USER: This is a large set of slides from which the presenter should select the most relevant ones to use in a specific presentation. These slides cover many facets of the problem. Present only those slides that apply most directly to the local situation in the region.>>

Global sanitation needs are enormous.

Without access to these basic services, everybody –especially children- miss out on opportunities to improve their lives with dignity and good health.

Access to sanitation is a need and basic human right.

This presentation will deal with children's health in relation to sanitation and hygiene.

LEARNING OBJECTIVES

- To understand the global context of sanitation and hygiene
- To review the major problems due to lack of sanitation
- To learn about the consequences to children's health, development and well-being
- To consider some of the options for improving sanitation and hygiene

<<READ SLIDE>>

Children – Sanitation and Hygiene

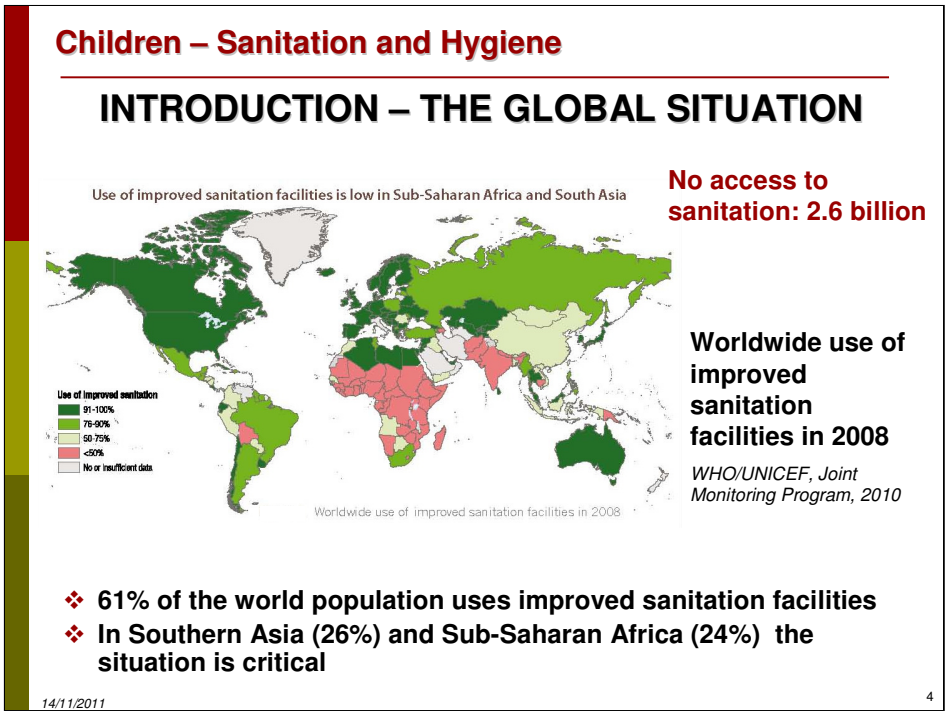
WHO

- Introduction
- Health aspects of sanitation
- Main diseases due to poor sanitation
- Barriers to progress in sanitation
- Lessons learned
- Future perspectives

<<NOTE TO USER: Please change the outline of this presentation as needed.>>

<<READ SLIDE>>

Picture: WHO, W. Stone. Health Education, Uganda, Africa



Global sanitation needs are enormous.

An improved sanitation facility is one that hygienically separates human excreta from human contact.

Improved sanitation facilities are used by less than two thirds of the world population. The global picture masks great disparities between regions. Virtually the entire population of the developed regions uses improved facilities, but in developing regions only around half the population uses improved sanitation. There are also disparities in progress since 1990. Notable increases in the use of improved sanitation have been made in Northern Africa, South-eastern Asia and Eastern Asia, whereas there has been no progress in the Commonwealth of Independent States and a decline in Oceania. Among the 2.6 billion people in the world who do not use improved sanitation facilities, by far the greatest number are in Southern Asia, but there are also large numbers in Eastern Asia and Sub-Saharan Africa.

•61% of global population uses improved sanitation facilities

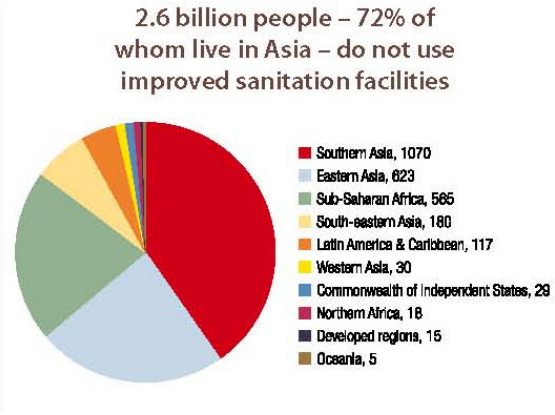
•2.6 billion people – 72% of whom live in Asia – do not use improved sanitation facilities

In the developed regions almost the entire population (99 per cent) used improved facilities as compared to 52 per cent in developing regions. In developed countries, nearly all human excreta are collected safely in sewerage systems or septic tanks; however, not all wastewater is treated before being discharged to the environment. In developing countries, the percentage of treated wastewater is low.

Notes and image from WHO/UNICEF, Joint Monitoring Program. Progress on sanitation and drinking water. Geneva, WHO/UNICEF Joint Monitoring Program, 2010. Available at: www.wssinfo.org/fileadmin/user_upload/resources/1278061137-JMP_report_2010_en.pdf – accessed 31 October 2011

Children – Sanitation and Hygiene

INTRODUCTION – THE GLOBAL SITUATION



WHO/UNICEF, Joint Monitoring Program, 2010

14/11/2011

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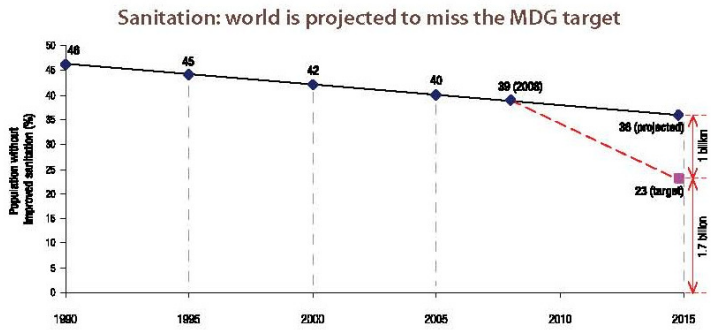
This graph shows the regional distribution of the 2.6 billion people not using improved sanitation facilities in 2008 (population in millions).

Notes and image from WHO/UNICEF, Joint Monitoring Program. Progress on sanitation and drinking water. Geneva, WHO/UNICEF Joint Monitoring Program, 2010. Available at: www.wssinfo.org/fileadmin/user_upload/resources/1278061137-JMP_report_2010_en.pdf – accessed 31 October 2011

Children – Sanitation and Hygiene

INTRODUCTION – THE GLOBAL SITUATION

Sanitation & Millennium Development Goals (MDG)



Global progress towards Millennium Development Goal target: trend in use of improved sanitation 1990-2008 projected to 2015

WHO/UNICEF, Joint Monitoring Program, 2010

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At the current rate of progress, the world will miss the Millennium Development Goal target by 13 percentage points. Unless huge efforts are made, the proportion of people without access to basic sanitation will not be halved by 2015. Even if we meet the Millennium Development Goal target, there will still be 1.7 billion people without access to basic sanitation. If the trend remains as currently projected, an additional billion people who should have benefited from Millennium Development Goal progress will miss out, and by 2015 there will be 2.7 billion people without access to basic sanitation.

Image and notes from WHO/UNICEF, Joint Monitoring Program. Progress on sanitation and drinking water. Geneva, WHO/UNICEF Joint Monitoring Program, 2010. Available at: www.wssinfo.org/fileadmin/user_upload/resources/1278061137-JMP_report_2010_en.pdf – accessed 31 October 2011

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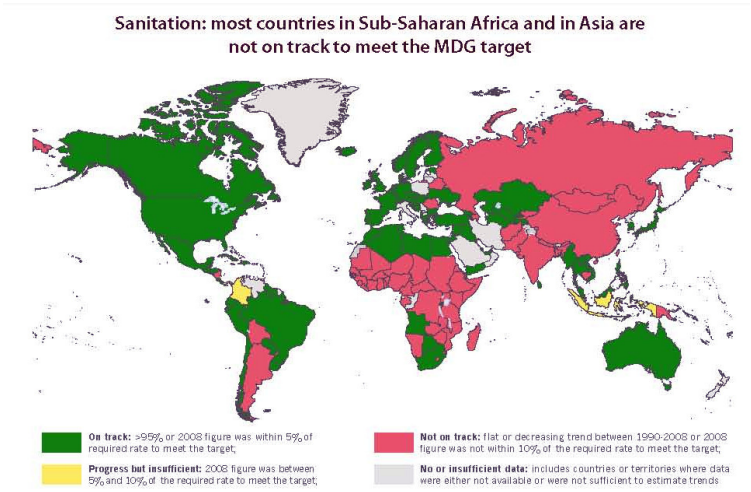
INTRODUCTION – THE GLOBAL SITUATION

Sanitation & Millennium Development Goals (MDG)



WHO/UNICEF, Joint Monitoring Program, 2010

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At current rates of progress the world will miss the Millennium Development Goal sanitation target by almost 1 billion people, which claims to: "halve, by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation," by 13 per cent. And the Millennium Development Goals are not the end of the sanitation challenge. Even if the target is met some 1.7 billion people will still not have access to improved sanitation facilities.

Image legend:

Green: on track. 2008 figure was within 5% of required rate to meet the target

Yellow: progress but insufficient. 2008 figure was between 5% and 10% of the required rate to meet the target

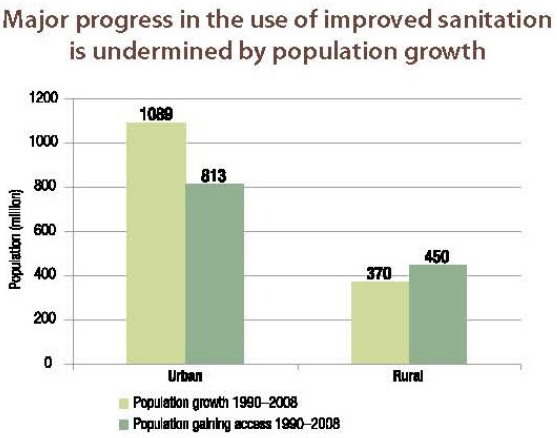
Red:: not on track. Flat or decreasing trend between 1990-2008 or 2008 figure was not within 10% of the required rate to mee the target.

Grey: no or insufficient data.

Image and notes from WHO/UNICEF, Joint Monitoring Program. Progress on sanitation and drinking water. Geneva, WHO/UNICEF Joint Monitoring Program. 2010. Available at: www.wssinfo.org/fileadmin/user_upload/resources/1278061137-JMP_report_2010_en.pdf – accessed 31 October 2011

Children – Sanitation and Hygiene

INTRODUCTION – THE GLOBAL SITUATION



WHO/UNICEF, Joint Monitoring Program, 2010

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Although major improvements have been made, the world population nor served with adequate sanitation has hardly decreased, primarily because of rapid population growth among the poorest sectors of society, particularly in isolated rural communities and periurban slums.

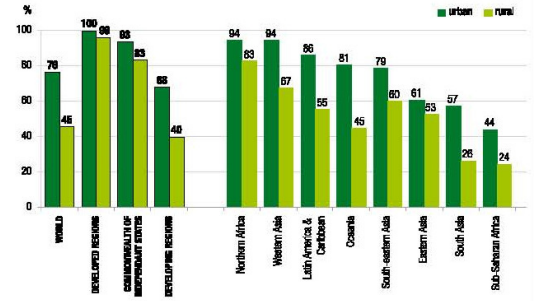
Children – Sanitation and Hygiene

INTRODUCTION – THE GLOBAL SITUATION

Disparity between urban and rural areas is striking:

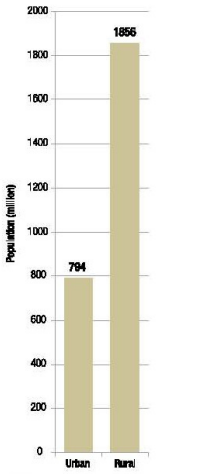
- **Rapid population growth**
- **Isolated rural communities and urban slums**

Use of improved sanitation in urban areas is higher than in rural areas



Urban-rural use of improved sanitation in Millennium Development Goal Regions, 2008
WHO/UNICEF, Joint Monitoring Program, 2010

Seven out of 10 people without improved sanitation live in rural areas



The use of improved sanitation facilities is particularly low in Sub-Saharan Africa at 31% overall – even so, the disparity between urban and rural areas is striking. Disparities are also particularly apparent in Latin America & Caribbean, Southern Asia and Oceania. Seven out of ten people without improved sanitation live in rural areas.

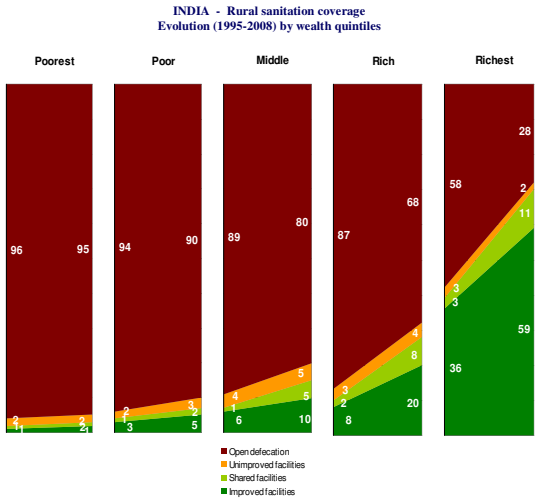
There are significant disparities between rural and urban areas in regard to sanitation. Rural areas continue to have a lower percentage of population using improved sanitation and a higher number of people without improved facilities. Of the approximately 1.3 billion people who gained access to improved sanitation during the period 1990-2008, 64% live in urban areas. However urban areas, though better served than rural areas, are struggling to keep up with the growth of the urban population.

Image and notes from WHO/UNICEF, Joint Monitoring Program. Progress on sanitation and drinking water. Geneva, WHO/UNICEF Joint Monitoring Program. 2010. Available at: www.wssinfo.org/fileadmin/user_upload/resources/1278061137-JMP_report_2010_en.pdf – accessed 31 October 2011

Children – Sanitation and Hygiene

LOOKING AT SANITATION FROM THE LENS OF THE POOR

- The poorest quintiles lag behind dramatically in the access to basic sanitation
- Progress in access is significantly faster in the two richest quintiles



The disparities between the rich and the poor are considered in this slide. Better sanitation policies and programming approaches are needed.

Image from WHO/UNICEF, Joint Monitoring Program. Progress on sanitation and drinking water. Geneva, WHO/UNICEF Joint Monitoring Program. 2010. Available at: www.wssinfo.org/fileadmin/user_upload/resources/1278061137-JMP_report_2010_en.pdf – accessed 31 October 2011

INTRODUCTION – THE GLOBAL SITUATION

Lack of access to sanitation aggravates and is aggravated by poverty, inequity and poor health

Children are especially affected by fecal water pollution:

- **Cholera**
- **Typhoid fever**
- **Paratyphoid fever**
- **Salmonellosis**
- **Shigellosis**
- **Giardiasis**
- **Hepatitis**
- **Poliomyelitis**

WHO

Lack of access to sanitation services aggravates and is aggravated by poverty, inequity and poor health.

Without access to these basic services, people, especially children, miss out on opportunities to improve their own lives with dignity and good health.

As long as the human right of access to adequate sanitation and safe water supply is denied to the poor, the health status of millions of children around the world will not improve in a sustainable manner.

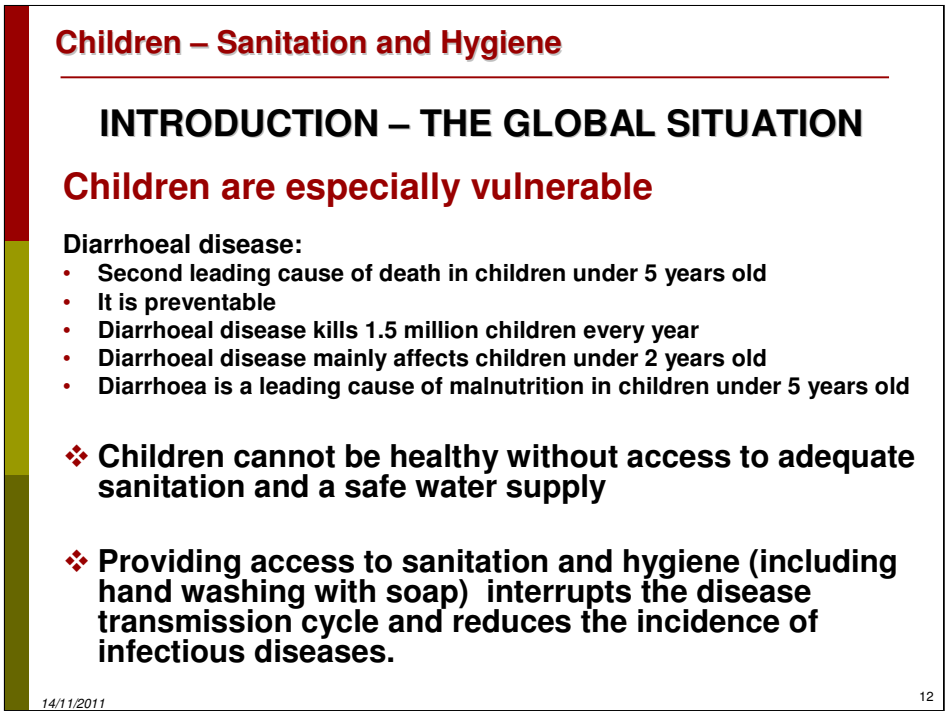
Lack of sanitation is a critical determinant in the contamination of drinking-water by microbes. Faecal pollution of drinking-water can lead to a number of diseases, including cholera, typhoid fever, paratyphoid fever, salmonellosis, shigellosis, giardiasis, hepatitis and poliomyelitis.

Refs:

•WHO. Children's Health and the Environment – A global perspective. A resource guide for the health sector. Pronczuk J, ed. *WHO*, 2005. Available at *www.who.int/ceh/publications/handbook/en/index.html* – accessed 31 October 2011.

•WHO/UNEP. Healthy environments for healthy children: key messages for action. *WHO/UNEP*, 2010. Available at *ww.who.int/ceh/publications/hehc_booklet/en/index.html* – accessed 31 October 2011.

Picture: WHO, J. Vizcarra. Environment toilets, Americas



Of particular concern is the evidence that the burden of disease associated with the lack of sanitation services falls disproportionately upon children.

Approximately 1.5 million children die from diarrhoeal diseases every year. The data clearly show that children cannot be healthy without access to adequate sanitation and a safe water supply. Providing access to sanitation and hygiene interrupts the disease transmission cycle and reduces the incidence of infectious diseases.

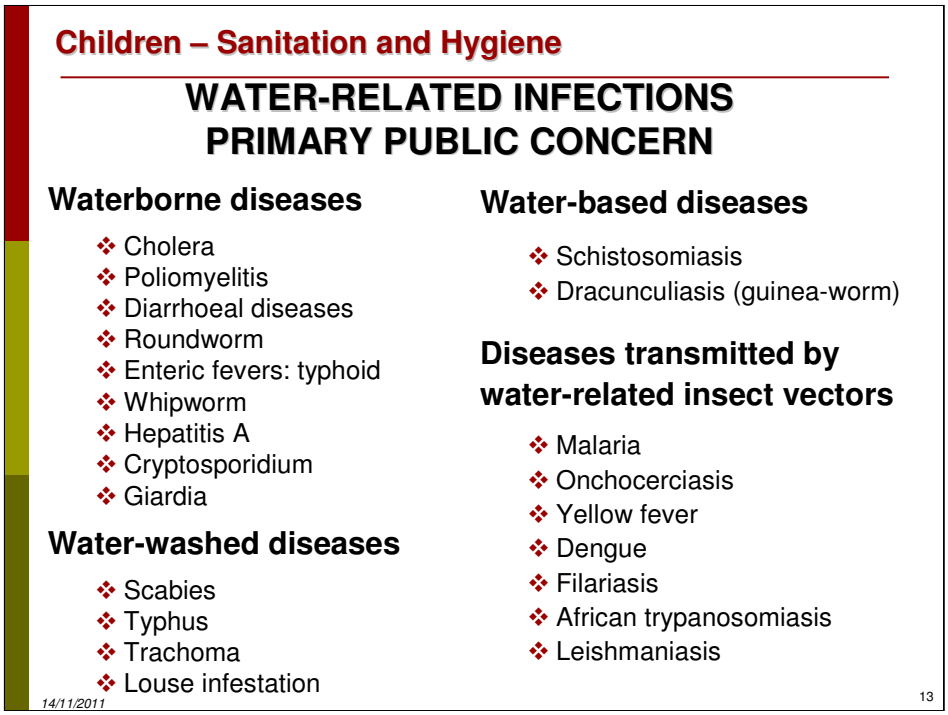
Refs:

•American Academy of Pediatrics Committee on Environmental Health. Pediatric Environmental Health, 2nd ed. Etzel RA, Ed. *Elk Grove Village, IL: American Academy of Pediatrics*, 2003.

•WHO. Children's Health and the Environment – A global perspective. A resource guide for the health sector. Pronczuk J, ed. *WHO*, 2005. Available at *www.who.int/ceh/publications/handbook/en/index.html* – accessed 31 October 2011.

•WHO. Diarrheal disease. WHO Factsheet. Available at *www.who.int/mediacentre/factsheets/fs330/en/index.html* – accessed 31 October 2011.

•WHO/UNEP. Healthy environments for healthy children: key messages for action. *WHO/UNEP*, 2010. Available at *ww.who.int/ceh/publications/hehc_booklet/en/index.html* – accessed 31 October 2011.



Lack of sanitation is a critical determinant in the contamination of drinking-water by microbes.

As already seen, faecal pollution of drinking-water can lead to a number of diseases, including: cholera, typhoid fever, paratyphoid fever, salmonellosis, shigellosis, giardiasis, hepatitis and poliomyelitis.

Water-related disease may be: water-borne, water-washed, water-based and water-related-vector-borne.

•Waterborne diseases: directly acquired from drinking water (contaminated). Contaminated water is a direct result of a lack of adequate sanitation facilities, poor wastewater treatment, and unhygienic behavior.

•Water-washed: indirectly acquired diseases due to lack of hygiene. Water-washed diseases, which produce skin and eye infections, are caused by a lack of soap and insufficient water for washing hands and clothes and for personal hygiene. Again, children are particularly vulnerable to these diseases. The main water-washed diseases are scabies, trachoma, typhus, and louse infestation. Trachoma, for example, is an infectious disease that can lead to blindness. Children are often a reservoir for the bacteria that cause trachoma.

•Water-based diseases: caused by aquatic organisms that spend part of their life-cycle in the water and another part as parasites of animals. Water-based diseases are transmitted to aquatic hosts, such as freshwater crustaceans, which may then be ingested by people.

•Diseases transmitted by water (or humidity!)-related insect vectors (includes African trypanosomiasis (tse-tse fly) and leishmaniasis (sandfly) that require only humid environments) (*Dr D. Engels, WHO, personal communication).*

Microbial contamination usually results from the contamination of water with human or animal faeces. If drinking-water is contaminated with faeces, pathogens are likely to be widely and rapidly dispersed. If the contamination is recent, and if the faeces are from carriers of communicable enteric diseases, the microorganisms (bacteria, viruses or protozoa) that cause these diseases may be present in the water.

The diseases range from mild gastroenteritis to severe and sometimes fatal diarrhoea, dysentery, hepatitis, cholera and typhoid. Helminths and amoebae may also be transmitted in water and are common in poor-quality water supplies.

There are also some organisms in the environment that may cause disease in humans in certain circumstances, e.g. *Legionella* may be transmitted through aerosols.

Adverse health effects arise primarily from the ingestion of pathogenic bacteria. People with low immunity, including infants, young children, the sick and the elderly are particularly vulnerable to microbial contamination even from ordinarily mild pathogens. Outbreaks of waterborne disease can lead to spread of infection across a wide community. *Cryptosporidium* and *Giardia*, for instance, cause regularly diarrhoea outbreaks. They cause problems due to the following factors:

-cyst formation (cysts are resistant in the water environment);

-cysts have a small size (problems in filtration processes);

-no specific hosts;

-cysts are resistant to chlorine.

In addition, risks are posed by some toxins that occur naturally in water, particularly in nutrient-rich surface waters where there is profuse algal growth.

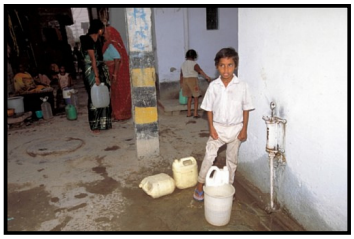
Ref:

•Satterthwaite D et al. *The environment for children.* New York, United Nations Children's Fund & Earthscan, 1996.

BARRIERS TO ACCESSING BASIC SANITATION AND HYGIENE

Policy and institutional barriers

- Lack of political will and budgetary priority
- Poor policy on sanitation at country level
- Fragmented institutional framework and poor coordination
- Inadequate and poorly used resources



The barriers to improving sanitation are complex and interrelated. The main problems are:

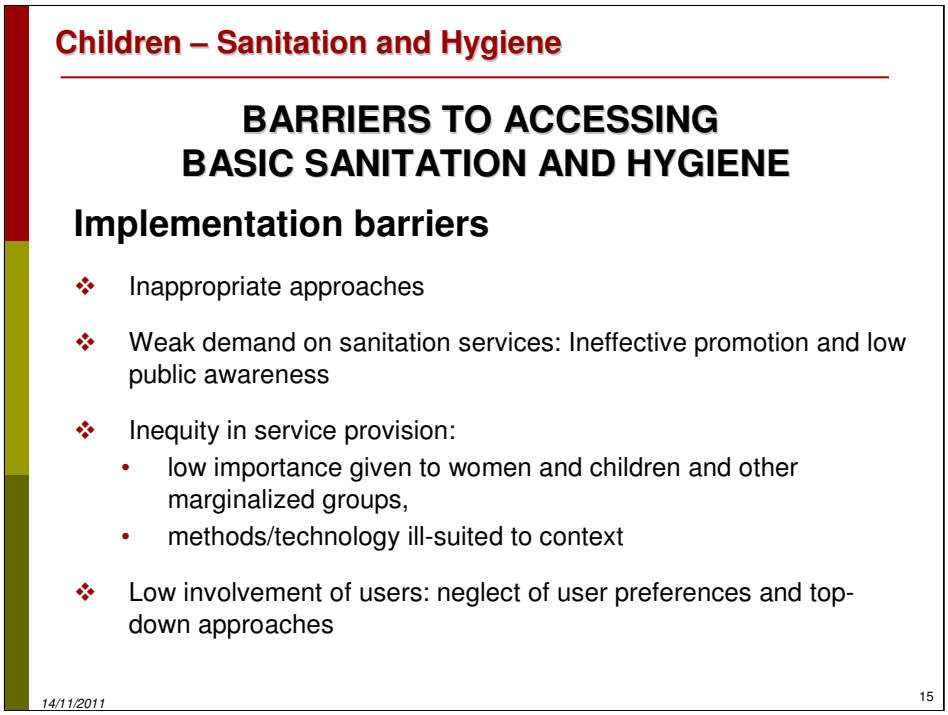
- A lack of political will and budgetary priority: governments have little interest in dealing with sanitation issues.
- Poor policy on sanitation at country level.
- Fragmented institutional framework: responsibilities for sanitation are fragmented and poorly coordinated among country agencies.
- Inadequate and poorly used resources: scarce financial resources are frequently used inefficiently, such as for improving existing services.

Low prestige and recognition: promoting low-cost sanitation and hygiene education has never been popular with politicians and technical staff because such projects carry little prestige.

Ref:

- WHO. Children's Health and the Environment – A global perspective. A resource guide for the health sector. Pronczuk J, ed. *WHO*, 2005. Available at *www.who.int/ceh/publications/handbook/en/index.html* – accessed 31 October 2011.

Picture: WHO, P. Virot. Sustainable development, healthy environment, hygiene water photography. Clean washing through safe water system: The Tappankala - Sector 1 Resettlement Area, Delhi, India, Asia, November 2002



The barriers to improving sanitation are complex and interrelated. The main problems are (continued list):

- Inappropriate approaches: frequently, the approach used to provide sanitation services is not in line with local culture, technical limitations or affordability criteria.
- Weak demand on sanitation services: ineffective promotion and low public awareness: often both the potential users of sanitation services and those responsible for policy and decision-making are not aware or convinced of the importance of good sanitation for health.
- Inequity in service provision: (i) low importance given to women and children and other marginalized groups; (ii) methods/technology ill-suited to context. The low importance given to women and children: women are potential agents of change in hygiene education, and children are the most vulnerable to poor sanitation.
- Low involvement of users: sanitation programmes should consider user preferences for affordability, cultural aspects, etc.

Ref:

- WHO. Children's Health and the Environment – A global perspective. A resource guide for the health sector. Pronczuk J, ed. *WHO*, 2005. Available at *www.who.int/ceh/publications/handbook/en/index.html* – accessed 31 October 2011.

Children – Sanitation and Hygiene

LESSONS LEARNED

Sanitation development requires:

- **Participation of the users - not a supply-driven approach!**
- **Consideration of the environmental impact of the programme**
- **Good institutional framework that allows decentralization**
- **Need to implement a full prevention package including the hygiene promotion and the use of improved sources of drinking water and sanitation facilities.**

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•Sanitation development should not be based on a supply-driven approach: the investment per capita is higher when the population does not participate and users may not be willing to pay for facilities that were selected without their participation. This also leads to insufficient cost-recovery, making it impossible to operate and maintain the facilities effectively. In addition, investments are generally focused on improving services for those already served, and the unserved or underserved poor are not considered a priority.

•Supply-driven approaches may also not consider the environmental impact of a programme (e.g. flushing toilets connected to a sewerage system with no wastewater treatment).

•An adequate institutional framework is a major factor facilitating sector development. Centrally managed sanitation services, especially in urban areas, tend to be hampered by ineffective financial performance and a rigid bureaucracy, and to have little budget autonomy. Decentralization of services appears to be an effective alternative.

•The operation and maintenance of sanitation systems have been traditionally neglected both by large sewerage systems and small-scale family-owned sanitation facilities. Small systems may break down soon after their installation. Large wastewater treatment plants that use sophisticated instrumentation end up being operated manually because of a lack of knowledge about the system, a lack of spare parts, or simply a lack of interest in making the most of the facility. Operation and maintenance should therefore be viewed as more than a purely technical issue, since they have connections with many institutional and management issues

•Hygiene behaviour is a crucial link between sanitation, water supply and health. While past efforts have built new water supply and sanitation systems, little has been done to maximize the health benefits from these efforts by changing the behaviour of people. Neglected school sanitation is a typical indicator that hygiene education is not a priority in schools, especially in poor urban agglomerations and in rural areas. According to a 1995 pilot survey conducted in 14 developing countries, the average number of children per toilet in urban schools was often more than 50. None of the 14 countries had increased the number of school toilets by more than 8% since 1990, suggesting that they were barely managing to keep up with the rise in student populations.

Ref:

•United Nations Children's Fund. The progress of nations. *New York, United Nations Children's Fund*, 1997

Picture above: WHO, P. Virot. Outside toilets, Ghana, 2003.

Picture below: WHO, P. Virot. Modern sanitary, toilet, The Tappankala - Sector 1 Resettlement Area, Delhi, India, Asia, November 2002

Children – Sanitation and Hygiene

Hygiene education, especially in primary schools, a key component of sanitation/water-supply plans

- **How to change habits and long-held beliefs about hygiene**
- **How to discuss sanitation issues where the topic is "taboo"**
- **How to achieve the necessary commitment of effort and time**

Involving children in the process offers hope for sustainability – As the children grow, they will continue to implement better sanitation practices and influence Their own children and community to do the same

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Hygiene education, especially in primary schools, should be a fundamental component of sanitation and water-supply programmes.

Much of the health benefit of water supply and sanitation is realized through changes in behaviour these services are available.

To obtain the full health benefits of sanitation programmes, key issues will need to be addressed, including:

•how to change habits and long-held beliefs about hygiene;

•how to discuss sanitation issues in societies where the topic is unmentionable; and

•how to achieve the necessary commitment of effort and time.

Involving children in the process would offer hope for sustainability, because as the children grow, they will continue to implement better sanitation practices and influence their own children and community to do the same.

Refs:

•WHO. Sanitation promotion. *Geneva, World Health Organization,* 1998.

•WHO/UNEP. Healthy environments for healthy children: key messages for action. *WHO/UNEP*, 2010. Available at *ww.who.int/ceh/publications/hehc_booklet/en/index.html* – accessed 31 October 2011.

Picture: WHO. Children, washing hands, People's Republic of China, Shanghai.

Children – Sanitation and Hygiene

CRITICAL ROLE OF HEALTH & ENVIRONMENT PROFESSIONALS

- Diagnose and treat
- Publish and do research
  - Detect sentinel cases
  - Inspire community-based interventions
- Educate
  - Patients and families
  - Colleagues and students
- Advocate
- Role Model

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Health and environment professionals have a critical role to play in maintaining and stimulating changes that will ensure children's access to sanitation and protect their health.

Health care providers play a key role in. All of us can do something.

•Diagnosis and treatment – including the environmental etiologies in the differential diagnoses: is the disease linked to lack of/poor sanitation? (at home, at school, in the community...).

•Health care providers should be alert and detect the "sentinel" cases. Their detection and study will be essential for developing, proposing and supporting community based interventions. Publication of cases and research studies allows the communication of knowledge and experience that will benefit other communities and countries

•It is important to inform and educate the children, their parents, families and communities. It is also important to communicate knowledge to colleagues and students didactically, on the importance of sanitation and hygiene-related diseases and how to avoid these

•Finally, health care providers should be vigorous advocates for the promotion of sanitation and hygiene behaviors. These and other measures are crucial for protecting the environmental health of children and future generations. Health care providers who understand both health and the environment, are powerful role models.

Picture: WHO, A. Waak. Health child hospitalization, Dominican Republic.

Ref:

•WHO. Children's Health and the Environment – A global perspective. A resource guide for the health sector. Pronczuk J, ed. *WHO*, 2005. Available at *www.who.int/ceh/publications/handbook/en/index.html* – accessed 31 October 2011.

HUMAN RIGHT TO WATER AND SANITATION

- In July 2010, the United Nations General Assembly recognized access to safe drinking-water and sanitation as a human right
- The resolution includes various characteristics against which the enjoyment of the right can be assessed:
  - availability, safety, acceptability, accessibility, affordability, participation, non- discrimination and accountability.

More information at: www.who.int/water_sanitation_health/en/ and www.righttowater.info/right-to-sanitation/

Children – Sanitation and Hygiene

To end this presentation, a beautiful reminder to us from a child who has drawn a clean environment, where proper hygiene conditions bring happiness and health.

Thank you.

Children – Sanitation and Hygiene

POINTS FOR DISCUSSION

14/11/2011

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<<NOTE TO USER: Add points for discussion according to the needs of your audience.>>

Children – Sanitation and Hygiene

ACKNOWLEDGEMENTS

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Latest update: November 2011

Children – Sanitation and Hygiene

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