



**WORLD HEALTH ORGANIZATION**



**REGIONAL OFFICE FOR  
SOUTH-EAST ASIA**

**The Role of Ministries of Health in  
Reducing Disease Burden due  
to Water, Sanitation and Hygiene  
Related Illnesses**



*“Effective control of diseases and health problems should be achieved by addressing determinants of health using an intersectoral approach, which among others, includes education, safe environment, water and sanitation....”*

**(19th Meeting of Ministers of Health of countries of SEAR, Maldives, 2001)**





***“Inadequate sanitation, hygiene and water result not only in more sickness and death, but also in higher health costs, lower worker productivity, lower school enrolment and retention rates of girls, and perhaps most importantly, the denial of the rights of people to live in dignity.”***

*Gro Harlem Brundtland, Director General WHO, and Carol Bellamy, Executive Director UNICEF, Foreword to the WHO/UNICEF Global Water Supply and Sanitation 2000 Report*

*Diseases related to water, sanitation and hygiene risk factors kill more persons than AIDS, malaria or tuberculosis. Health ministries can help prevent a significant portion of the disease burden due to water, sanitation and hygiene-related illnesses through evidence-based advocacy, health promotion and education to improve hygiene practices, and promotion of affordable interim measures at the household and community level.*

### **Epidemiology of diseases related to water supply, sanitation and hygiene**

Globally, 19 per cent of deaths due to infectious diseases stem from water, sanitation and hygiene risk factors<sup>1</sup>. This amounts to 3.4 million deaths per year, two thirds of which are caused by diarrhoea, a disease that claims the lives of more than 2.2 million people every year. Of those who die, most are children in developing countries.

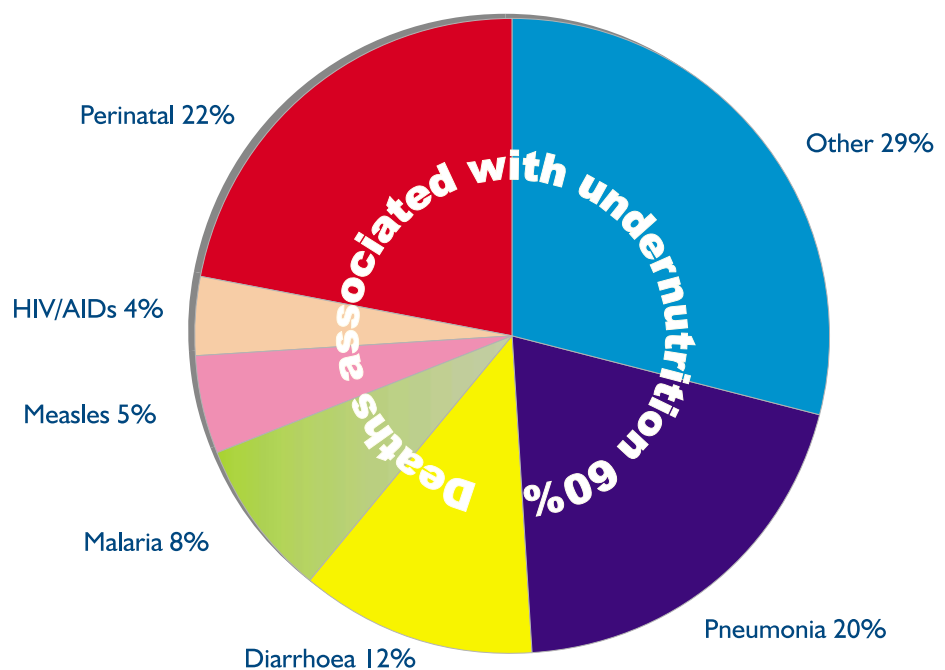
In the past two decades, oral rehydration therapy and other improvements in case management have significantly reduced mortality due to diarrhoea worldwide, but the toll remains unacceptably high. The South-East Asia Region (SEAR) bears a disproportionate burden of global diarrhoea mortality: SEAR countries account for nearly one million deaths per year due to diarrhoea, or 43 per cent of the total worldwide. Further reductions in mortality and morbidity require greater efforts, not only in case management but also in the prevention of diarrhoea.

In addition to diarrhoea, lack of access to safe water and sanitation and poor hygiene are important risk factors for other diseases including hepatitis, typhoid, trachoma and illnesses caused by intestinal nematodes, as well as important non-communicable diseases such as arsenicosis and fluorosis. Water supply, sanitation and hygiene are also key issues for other health programmes, such as child health and survival, women’s health, nutrition and food safety, and emergency and humanitarian assistance.

### **Major causes of death among children under 5, world, 2000**

**Ministries of health should:**

- **link disease surveillance and environmental surveillance programmes;**
- **stimulate and support epidemiological research and economic analysis related to water supply, sanitation and hygiene; and**
- **improve information management and communication programmes...all as tools for advocacy.**





For example, due to lack of access to latrines, millions of women in a number of SEAR countries are obliged to defecate under the cover of darkness. This contributes to the incidence of violence against women and associated sexually transmitted diseases including HIV/AIDS.

### **Water supply, sanitation and hygiene situation in SEAR**

Water supply coverage was extended to an additional 230 million persons in SEAR during the period 1990-2000, but more than 210 million persons within the Region still lack access to safe drinking water. Nearly 86 per cent of SEAR's population have access to water supply but it is not known how many of these consume water that is safe for drinking. It has been established that no SEAR country has an adequate national programme of controlling drinking water quality. Some countries supply relatively safe drinking water in major cities, but microbiological contamination is common in rural areas and in urban slums.<sup>2</sup> Regarding chemical contaminants in drinking water, it has been estimated that between 35 and 77 million people in Bangladesh are at risk from drinking arsenic contaminated drinking water<sup>3</sup>. Fluoride affects an estimated 60 million people in India alone<sup>4</sup>. The problems of arsenic and fluoride contamination are also found in other parts of the Region.

Of all WHO Regions, sanitation coverage is the lowest in SEAR. Nearly 873 million persons in the Region practise open defecation due to lack of access to sanitation.<sup>5</sup> A significant proportion of people in rural and peri-urban areas in SEAR countries fail to observe adequate hygiene behaviours such as hand washing, safe disposal of infants' faeces, proper maintenance of latrines and safe water storage.<sup>6</sup>

### **Economic costs and benefits of water, sanitation and hygiene interventions**

The cost of halving the proportion of SEAR population that lacks access to improved water supply and sanitation by the year 2015 has been estimated as \$3.7 billion per year. The health savings associated with a reduction in under-five diarrhoea due to this level of investment are between \$2.3 and \$6.3 billion per year. The benefits would be greater still if the impact on adult health, reductions in other diseases, avoided medical expenses, productivity gains and commercial benefits were also taken into account.

***“In addition to employing strategies of advocacy and partnerships, health authorities in particular must take action to ensure inter-programme collaboration, where water supply and sanitation concerns intersect with programmes for disease-prevention and control, primary health care and healthy settings, infants’ and children’s health, and women’s health and gender equity”.***

*Dr Uton Muchtar Rafei, Regional Director SEARO, in his World Water Day 2001 message.*

<sup>1</sup> [www.worldwaterday.org/2001/disease/index.html](http://www.worldwaterday.org/2001/disease/index.html)

<sup>2</sup> *Drinking Water Surveillance Programmes in the South-East Asia Region: Updated Situation Assessment and Recommendations for Future Activity* Guy Howard and Kathy Pond WHO SEARO 2002

<sup>3</sup> Arsenic in Drinking Water WHO Fact Sheet No. 210 Revised May 2001. Bulletin of World Health Organisation, Vol 78 (9) page 1098

<sup>4</sup> WHO/UNICEF, *Global Water Supply and Sanitation Assessment 2000 Report*, Geneva

<sup>5</sup> *ibid*

<sup>6</sup> *Water, Waste and Well Being: A Multicountry Study*, Steven A. Esrey, American Journal of Epidemiology, 1996, Vol 143, No.6

<sup>7</sup> Note on the Health Impact of Water and Sanitation Services, L. Vaz, P. Jha, *WHO Commission on Macroeconomics and Health*, paper No. WG5:23.

***The WHO Commission on Macroeconomics and Health found that educating people about the importance of handwashing resulted in reductions in disease prevalence between 30 and 48 per cent.***

***The Commission also established that handwashing can reduce morbidity by between 27 and 89 per cent.<sup>7</sup>***





### **Essential roles of ministries of health**

*Ministries of health have primary responsibility to protect human health. To reduce the burden of disease related to water, sanitation and hygiene, health authorities should fulfill three essential roles:*

### **Action required to support these roles**

*Ministries of health in SEAR have focused past efforts in this area on surveillance of drinking water quality, investigations of disease outbreaks and the treatment of related illnesses. Many health ministries could strengthen their capacity to prevent such illnesses through the following actions:*

#### **Evidence-based advocacy**

Successful advocacy depends on strong evidence. To advocate the development of water supply and sanitation infrastructure and increased efficiency within the sector, health ministries will need to improve their information base.

#### **Action**

Strengthen health ministries' capacity as advocates of improved water supply and sanitation services and increased sector efficiency by:

- ◆ linking disease surveillance with environmental surveillance programmes;
- ◆ strengthening research capacity on the epidemiology of water related disease and economic analysis; and
- ◆ improving information management and communications capabilities.

#### **Health Promotion and Education**

Improving access to water supply and sanitation services is necessary but not sufficient to reduce disease prevalence without also improving hygiene practices.

Existing health promotion and education programmes should be made more effective in achieving behavior changes needed to improve hygiene.

#### **Action**

Strengthen health promotion and education programmes to achieve behavior changes needed to improve hygiene practices.

#### **Promotion of affordable interim measures at household and community level**

Water supply and sanitation authorities need to make significant investments over several decades to correct deficiencies in coverage and meet the needs of growing populations.

Meanwhile, families and communities can protect their health through simple, affordable measures. These include rainwater harvesting and household-level water treatment.

Health authorities should play a leading role in promoting these measures to alleviate morbidity and mortality.

#### **Action**

Strengthen the capacity of health authorities to promote simple, affordable water supply and sanitation technologies at household and community level.