

Water and Sanitation Related Diseases and the Environment: Challenges, Interventions and Preventive Measures

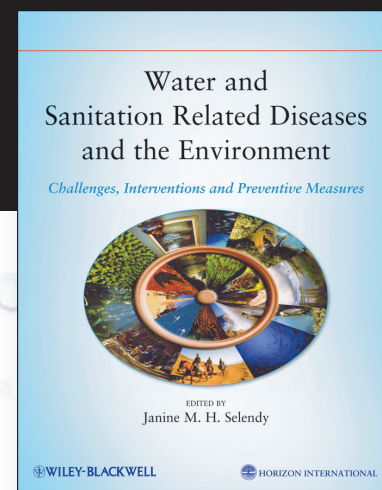
Janine M.H. Selendy, in collaboration with Horizon International

“...once we can secure access to clean water and to adequate sanitation facilities for all people, irrespective of the difference in their living conditions, a huge battle against all kinds of diseases will be won.”

— Dr Lee Jong-wook, Former Director-General, World Health Organization

978-0-470-52785-6
Paperback / 552 pages
\$139.95 / £93.50 / €112.20
August 2011

Written by authorities from the fields of public health, medicine, epidemiology, environmental health, climate change, environmental engineering, and population research, this book presents an interdisciplinary picture of the conditions responsible for water and sanitation-related diseases. It examines the pathogens and their biology, morbidity and mortality resulting from lack of safe water and sanitation, distribution of these diseases, and the conditions that must be met to reduce or eradicate them. The publication covers access to and the maintenance of clean water, and includes guidelines for the safe use of wastewater, excreta and greywater along with examples of solutions; this is presented with an emphasis on what is actually achievable in the real world, considering that, currently 2.6 billion individuals have no toilet and 1.2 billion people are exposed to water-related illness from their drinking water. Meeting water and sanitation needs, coupled with protection of the environment and prevention of pollutants, is essential to every effort to improve the health and living conditions of billions of people. Meeting these needs is fundamental, not only to effectively diminish incidence of diseases that afflict a third or more of the people of the world, but also to improve education and economic well-being and elevate billions of individuals out of vicious cycles of poverty. The preventive measures and solutions presented in this book provide guidance for possible action on the local, national and international levels.



A collaboration between



and



The print copy of the book is accompanied by a multimedia DVD with figures from each of the chapters, supplemental images, and videos. Available now from www.wiley.com

Special websites established by Wiley-Blackwell and by the Horizon Solutions Site at www.solutions-site.org present the electronic version of the book, the DVD and other supplementary material

JANINE SELENDY is Founder, Chairman and President of Horizon International, a non-profit organization based at Yale University which addresses health, environmental and poverty issues. She also serves as principal editor and publisher of the Horizon Solutions Site, www.solutions-site.org, a collaborative program with UNDP, UNEP, UNFPA, Unicef, the IDRC, Yale and Horizon's colleagues at Harvard. She is executive producer of more than 20 international television documentaries, many of which have won awards and been broadcast around the world. This publication originated from a syllabus on water and sanitation she prepared at the invitation of Yale School of Public Health which was the basis of subsequent lectures she gave at both Yale and at the Columbia Mailman School of Public Health. She is a generalist whose early medical work included a discovery while doing cancer research and co-authoring a paper for the Journal of Diabetes. Her background in medical, scientific, environmental and other areas provides her with an appreciation of the interconnectedness of many subjects. Visit <http://www.solutions-site.org> for more information.

Table of Contents on reverse ►

Water and Sanitation Related Diseases and the Environment: Challenges, Interventions and Preventive Measures

TABLE OF CONTENTS

INTRODUCTION

Janine M. H. Selendy, Jens Aagaard-Hansen

CHAPTERS

Tackling the Water Crisis: A Continuing Need to Address Spatial and Social Equity

Jay P. Graham

Sanitation & Hygiene: Taking Stock after Three Decades

Jay P. Graham

Population, Water and Health: The Demographic Background

Robert Wyman

Water and War: Averting Armed Conflict and Protecting Human Rights

Barry S. Levy, Victor W. Sidel

Infectious Diarrhoea

Mathuram Santosham, Margaret Kosek, Aruna Chandran, Sean Fitzwater

Malnutrition and Undernutrition

Jeffrey K. Griffiths

Geohelminths: Ascaris, Trichuris, and Hookworm Infections

Michele Barry, Brian G. Blackburn

Toxic Cyanobacteria

Ian Stewart, Lorraine C. Backer, and Wayne W. Carmichael

Dengue: A Water-Borne Disease

Scott B. Halstead

Dracunculiasis (Guinea worm disease): Case Study of the Effort to Reduce Guinea Worm

Donald R. Hopkins, Ernesto Ruiz-Tiben

Onchocerciasis

Adrian Hopkins, Boakye A. Boatin

Reassessing multiple-intervention malaria control programs of the past: lessons for the design of contemporary interventions

Burton H. Singer, Marcia C. Castro

Schistosomiasis

Jens Aagaard-Hansen, Pascal Magnussen, Birgitte Jyding Vennervald

Trachoma

Joseph A. Cook, Silvio P. Mariotti

Shigellosis

M. John Albert, Michael L. Bennish

The Zimbabwe Cholera Epidemic of 2008-09

Edward Dodge

Coverage of cholera on the DVD

Rita Colwell et al

Infectious Disease Control in Ghana: Government's interventions and challenges to malaria eradication

Julius N. Fobil, Juergen May, Alexander Kraemer

Household Water Treatment and Safe Storage in Low-Income Countries

Thomas F. Clasen

The Role of Small-scale Private Service Providers in the Water Sector in Developing Countries

Menachem Elimelech, Laura Sima

The Sanitation Challenge in India

Bindeshwar Pathak

Sanitation Success Stories from Southeast Asia

Jay P. Graham

Household-Centered Environmental Sanitation Systems

Bindeshwar Pathak

Naturally Occurring Water Pollutants

Lorraine C. Backer, Jonathan K. Kish, Helena M. Solo-Gabriele, Lora E. Fleming

Anthropogenic Sources of Water Pollution

Part 1

Robert S. Lawrence, Kerry Shannon

Part 2 Sub-Section: Pharmaceuticals and Personal Care Products in the Environment

M. Danielle McDonald

The Hudson River: A Case Study of PCB Contamination

David O. Carpenter, Gretchen Welfinger-Smith

Antibiotic-resistant bacteria

Amy R. Sapkota

What Can Be and Is Being Done About Water Pollutants?

Jeffery A. Foran

Global Substitution of Mercury-based Medical Devices in the Health Sector

Peter Orris, Josh Karliner, Health Care Without Harm

Addressing sources of PCBs and other chemical pollutants in water

Gretchen Welfinger-Smith, David O. Carpenter

Global Water Governance

Nikhil Chandavarkar

Changing Geographic Distribution of Disease Vectors

Mary Wilson

Malaria in the Brazilian Amazon

Burton H. Singer, Marcia C. Castro

Ecosystem services, water resource development and human infectious disease

Uriel N. Safriel

Ocean Pollution: Health Effects of Emerging Environmental Contaminants

Susan D. Shaw, Kurunthachalam Kannan

Progress in Meeting UN Millennium Development Goals:

Assessment of Progress

Gretchen Loeffler Peltier, Unni Krishnan Karunakara, Anson Wright

Extending The Right To Health Care And Improving Child Survival In Mexico

Julio Frenk, Octavio Gómez-Dantés

Using Kinship structures in health programming: An Example of Preventive Measures and Successful Interventions

Moses N. Katarwa