

Inheriting the World:

The Atlas of Children's Health and the Environment

Bruce Gordon, Richard Mackay and Eva Rehfuess



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A warming planet, page 46
Livermore M (University of East Anglia), Campbell-Lendrum D (WHO). Generated in 2004 based on data from the Hadley Centre. Climate change observations and predictions. Exeter, UK Meteorological Office, 2003.

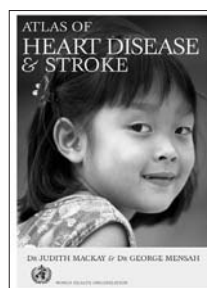
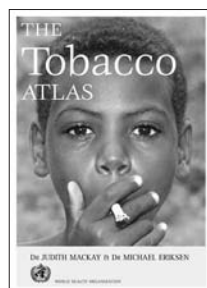
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Richard Mackay is an environmental consultant. He has a science degree from the University of Cambridge, UK and a Master's degree in Environmental Management. He has implemented environmental and safety programmes for the University of Cambridge and for the business and government sectors. He is a member of the British Institute of Environmental Management and Assessment. He is the author of *The Atlas of Endangered Species* (Penguin USA/Earthscan UK, 2002), also produced by Myriad Editions. He takes a keen interest in environmental protection and ecology, including work on the Aride Island Nature Reserve, Seychelles and nature reserves in Britain.

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In the same series:



Every child has the right to live in a healthy, supportive environment – an environment that encourages growth and development, and protects from disease. Many of the world's children, however, are exposed to hazards in the very places that should be safest – the home, school and community. Considering that their growing bodies are particularly sensitive to environmental threats, the final burden of childhood disease is substantial. Every year, more than three million children die due to unhealthy environments.

The majority of these child deaths are caused by unsafe water, lack of sanitation, indoor air pollution, and mosquitoes bearing malaria. Other environmental hazards include passive smoking, lead and pesticides, road traffic accidents, and global environmental changes.

Persistent poverty aggravates these environmental threats. The children worst affected are those in the developing world, and the enormous burden of ill-health falling on their youngest citizens constrains the social and economic development of these countries.

Children are helpless in the face of environmental risks and, all too frequently, adults do not listen to the voices of children or act upon their most urgent needs. But we must listen. Children are our most precious resource. Together, now is the time to focus our efforts on combating environmental threats to children's health and to work towards a sustainable and brighter future.

A handwritten signature in black ink, reading 'Jong-wook Lee'. The signature is fluid and cursive, with a long horizontal stroke at the end.

Dr LEE Jong-wook
Director-General
World Health Organization
Geneva
March 2004

The World's Forgotten Children

Aiko is safely delivered in Kumamoto, Japan, and can expect to live about 85 years. At the same time, Mariam comes into this world in one of the poorest areas of Freetown, Sierra Leone. She is underweight and vitamin-deficient, and has a 30% chance of dying before her fifth birthday.

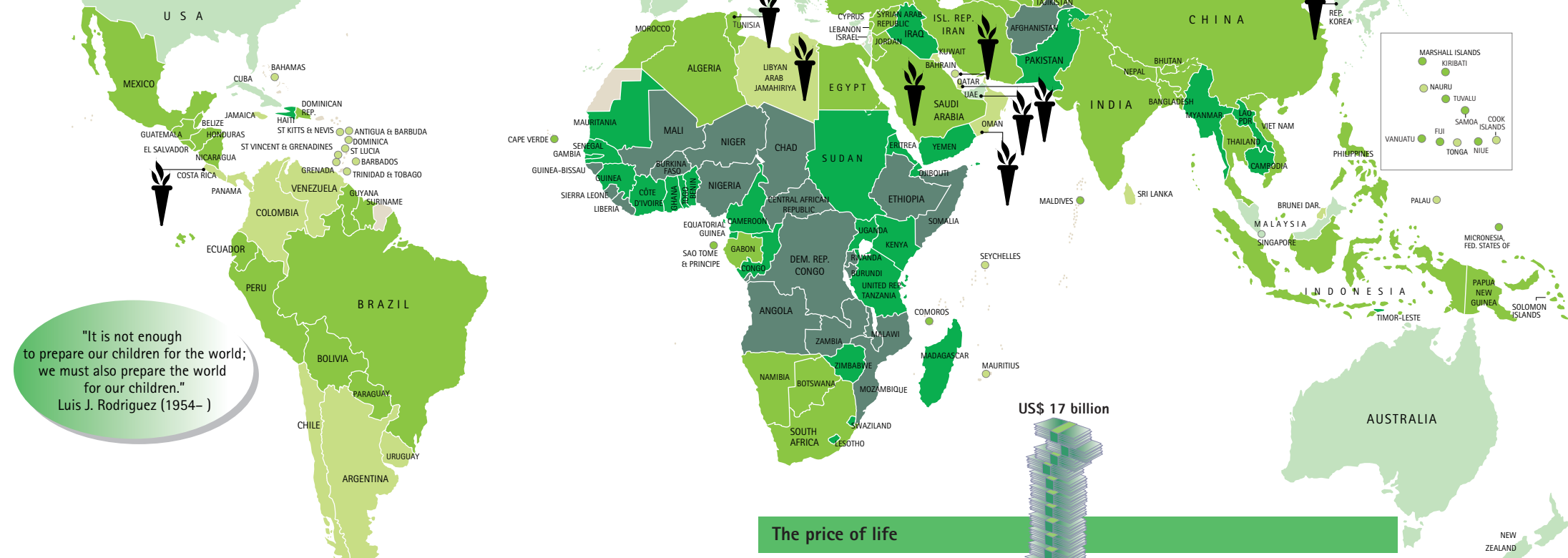


Today, 35% of Africa's children are at higher risk of death than they were ten years ago.

Over 10 million children under five die every year – 98 per cent of them in developing countries. Widespread malnutrition hampers children's growth and development, opening the door to the biggest killers of children under five: perinatal diseases, pneumonia, diarrhoea, and malaria. This presents a sharp contrast to the situation in the industrialized world, where junk food and a sedentary lifestyle have triggered an unprecedented epidemic of obesity in children, leading to diabetes and heart disease in adult life.

The last three decades have witnessed an impressive decline in child mortality, from 17 million a year in the 1970s. Yet these gains have not been enjoyed everywhere. In some countries of sub-Saharan Africa, child mortality is rising as wars and the ravage of the AIDS epidemic undermine the medical, social and economic structures of society.

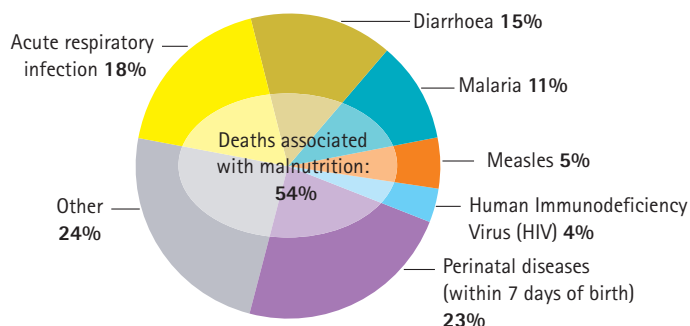
At the turn of the century, the world joined together in the fight against poverty, and committed itself to the Millennium Development Goals, adopted by the United Nations in 2000. "To reduce by two-thirds the under-five mortality rate between 1990 and 2015" may be the most ambitious of these goals.



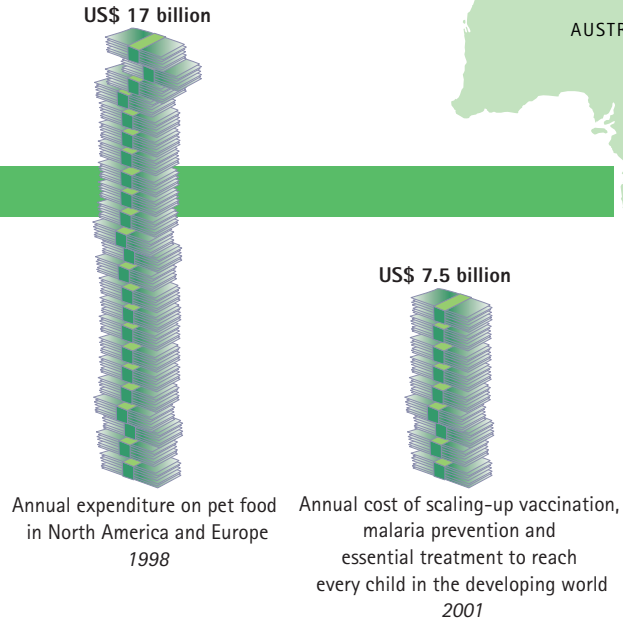
"It is not enough to prepare our children for the world; we must also prepare the world for our children." Luis J. Rodriguez (1954-)

The biggest killers of children under five

Main causes of child mortality 2002



The price of life



2

Two Worlds: Rich and Poor

"We are all responsible for all."
Fyodor Dostoevsky (1821-1881)

Poverty is the single biggest threat to children's health. Poor children are more likely to die as infants, and are sick more often and more seriously than better-off children.

The poor and the marginalized – especially children – often bear the brunt of environmental degradation. Yet, because of their vulnerability, children are the very group that can least afford to be exposed to environmental hazards. They are not "little adults": they breathe more air, consume more food, and drink more water in proportion to their weight. Children's behaviour further puts them at risk. Their life takes place closer to the ground and young children frequently put their fingers in their mouths.

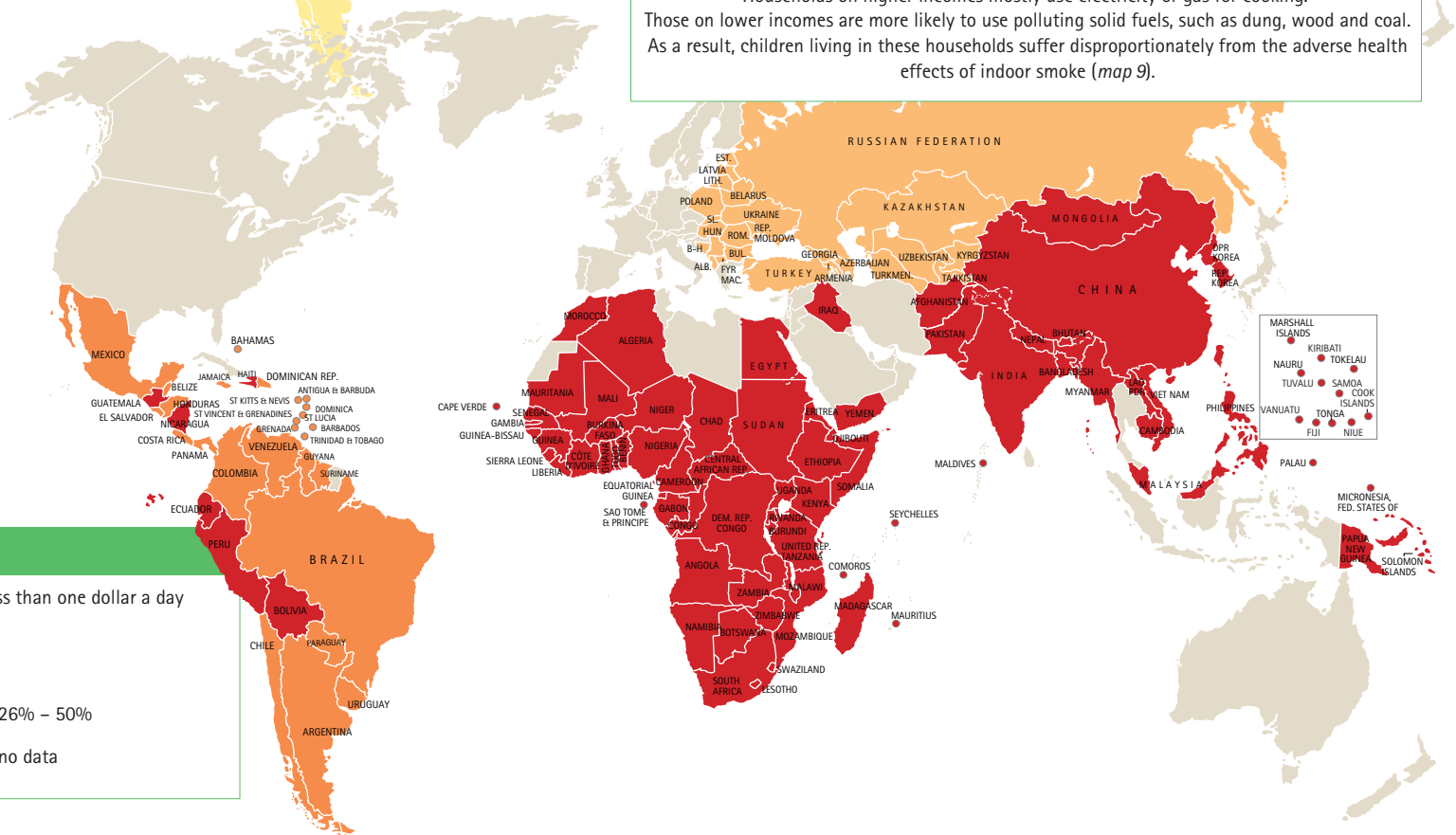
Exposure to environmental risks is one of the reasons for poor children being worse off than their wealthier peers. In developing countries, environmental risks are compounded in the poorest settlements, where housing is inadequate, water and sanitation are lacking, garbage collection is non-existent, and smoke fogs indoor air. In rich countries, low-income or minority neighbourhoods are sometimes disproportionately located near hazardous waste sites or polluting industries.

A rising income gap between the rich and the poor within countries around the world means that millions of children may be excluded from the health benefits of emerging prosperity.



Households on higher incomes mostly use electricity or gas for cooking. Those on lower incomes are more likely to use polluting solid fuels, such as dung, wood and coal. As a result, children living in these households suffer disproportionately from the adverse health effects of indoor smoke (map 9).

Every year smoke from burning solid fuels in the home kills one million children under five years.



3

Traditional Hazards, New Risks

"The problems we have today cannot be solved by thinking the way we thought when we created them."
Albert Einstein (1879–1955)

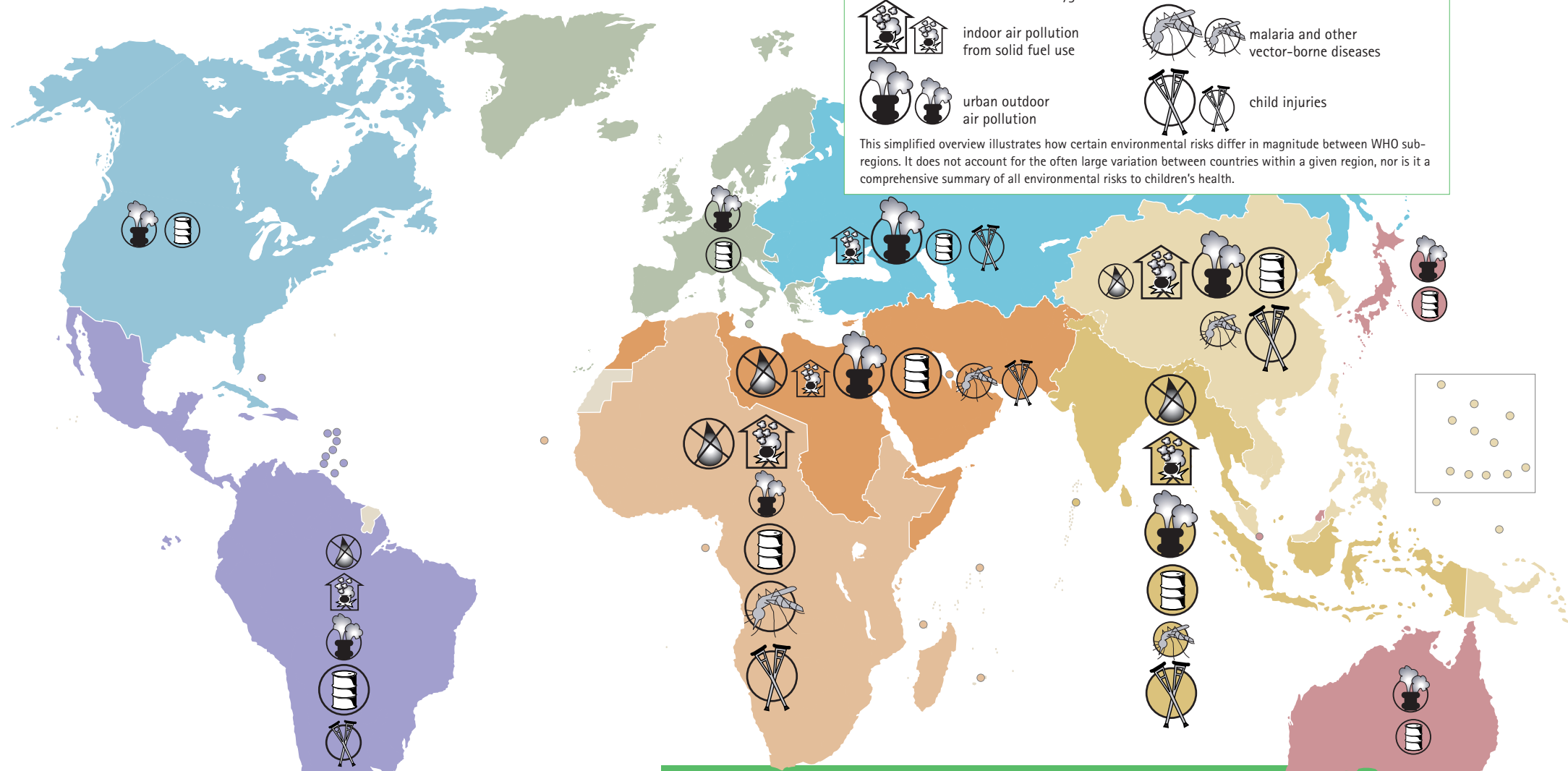
Children today live in an environment that is vastly different from that of a few generations ago. Global challenges include industrialization, rapid urban population growth, the unsustainable consumption of natural resources, the increasing production and use of chemicals, and the movement of hazardous wastes across national borders.

Homes, schools, streets and fields – the settings where children live, learn, play and work – all present environmental hazards. Yet, children born into different countries, cities or rural areas, and even different neighbourhoods, face risks that may be poles apart.

As countries develop, many of the most serious "basic risks" to child health gradually vanish with improvements in water and sanitation, hygiene and cleaner fuels for cooking. Their decline, however, is accompanied by an increase in "modern risks". Industrialization brings with it an increase in road traffic, air pollution, and the use of chemicals that infiltrate the air children breathe and the food they eat.

It is too early to judge the exact impact of "emerging risks", such as endocrine disruptors and global warming. These add to the challenges we must confront to safeguard our children's health and future.

Each year over three million children die from illnesses and other conditions caused by environmental hazards.

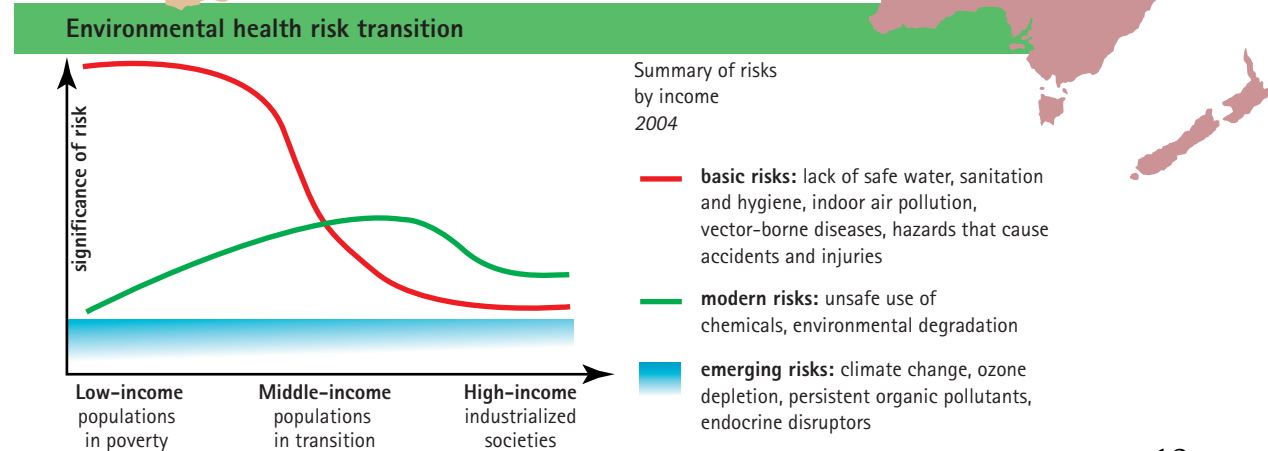


Environmental health risks

Sized according to significance of risk 2002 by WHO sub-region

- lack of safe water, sanitation and hygiene
- indoor air pollution from solid fuel use
- urban outdoor air pollution
- lead and other hazardous chemicals
- malaria and other vector-borne diseases
- child injuries

This simplified overview illustrates how certain environmental risks differ in magnitude between WHO sub-regions. It does not account for the often large variation between countries within a given region, nor is it a comprehensive summary of all environmental risks to children's health.



4

Water for All: Making it Happen

"By means of water we give life to everything."
Koran

Water is the essence of life and human dignity. As a fundamental human right "sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses" is vital for all. Governments are responsible for ensuring that this human right is progressively fulfilled. As a result of their action, in collaboration with partners, 900 million more people gained access to an improved water supply during the 1990s.

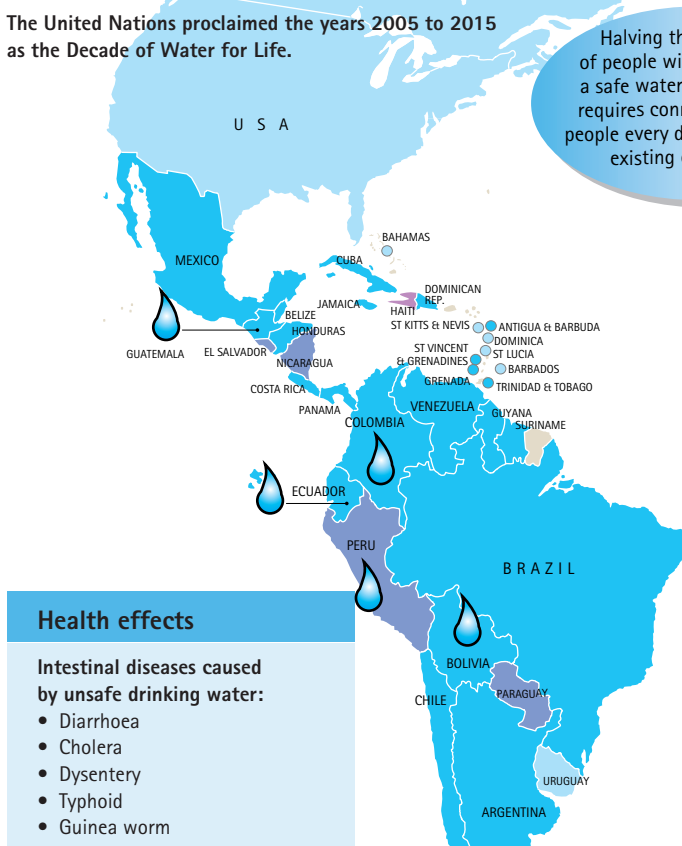
Yet 1.1 billion people in rural areas and urban slums still rely on unsafe drinking water from rivers, lakes and open wells. Children, in particular, suffer from water-related illnesses. Each episode of diarrhoea sets back a child's growth by lowering their appetite and reducing their calorie and nutrient uptake. Persistent diarrhoea and severe diseases, such as typhoid and dysentery, jeopardize children's healthy development. Every year, nearly 2 million children do not survive this struggle.

Continued progress towards providing everyone with access to protected wells and, ultimately,



The United Nations proclaimed the years 2005 to 2015 as the Decade of Water for Life.

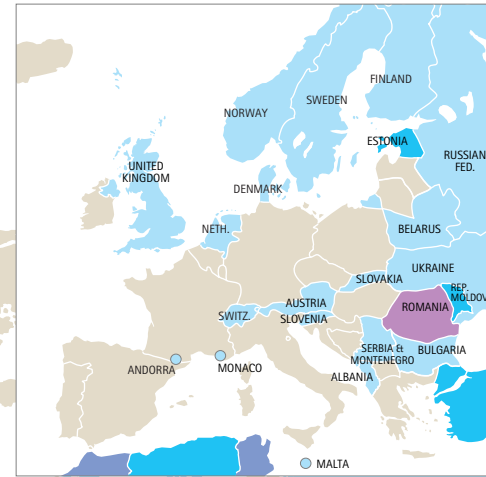
Halving the proportion of people without access to a safe water supply by 2015 requires connecting 125 000 people every day and sustaining existing connections.



Health effects

Intestinal diseases caused by unsafe drinking water:

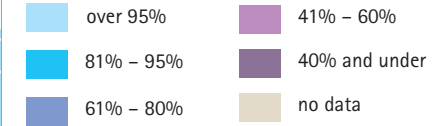
- Diarrhoea
- Cholera
- Dysentery
- Typhoid
- Guinea worm



Water supplies

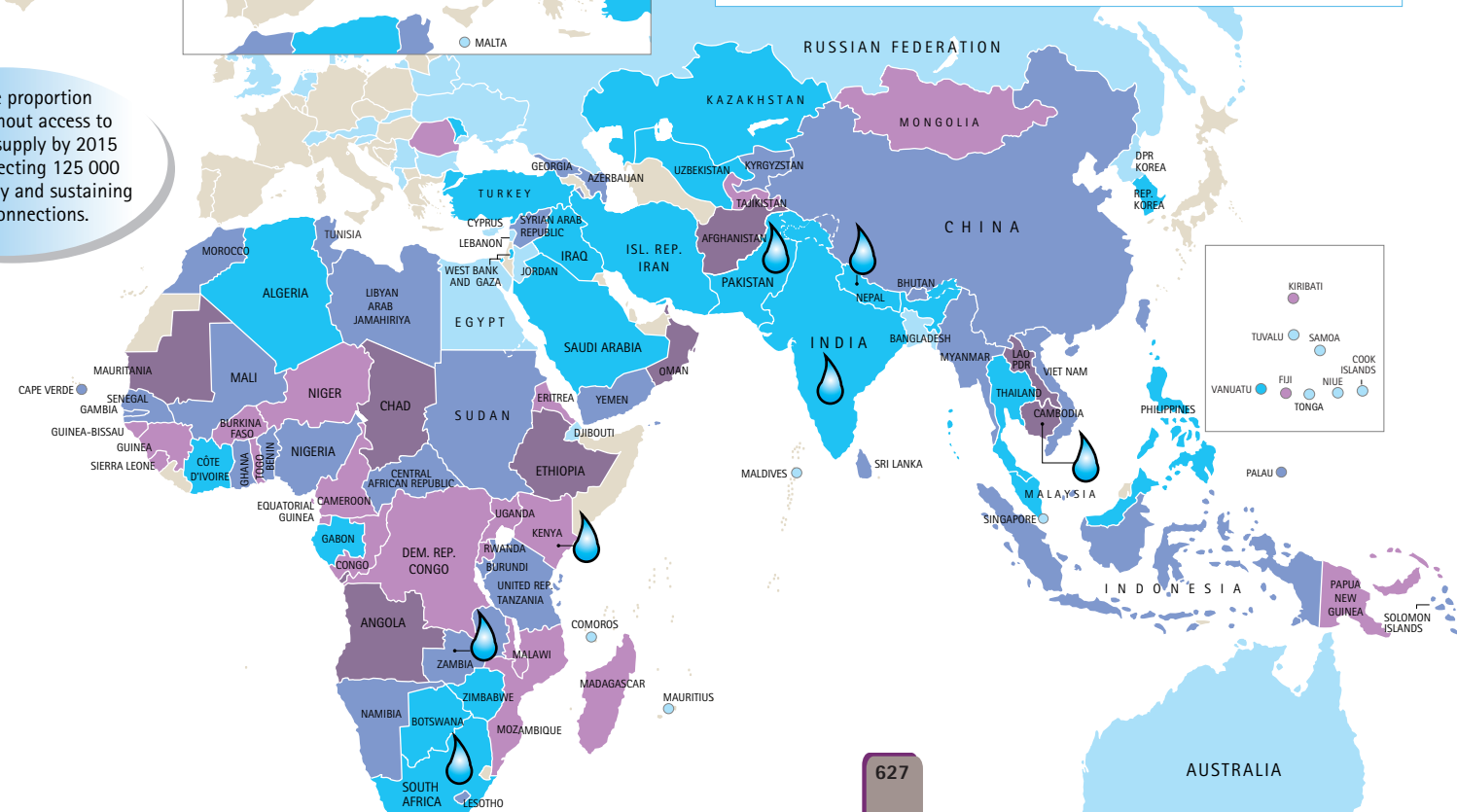
Percentage of households with access to an improved water supply 2000 or latest available data

An improved water supply is defined according to the type of technology (piped drinking water, protected well or spring, rainwater), the distance from the source (available within 1 km of the home) and water quantity (at least 20 litres per day).



Striving ahead

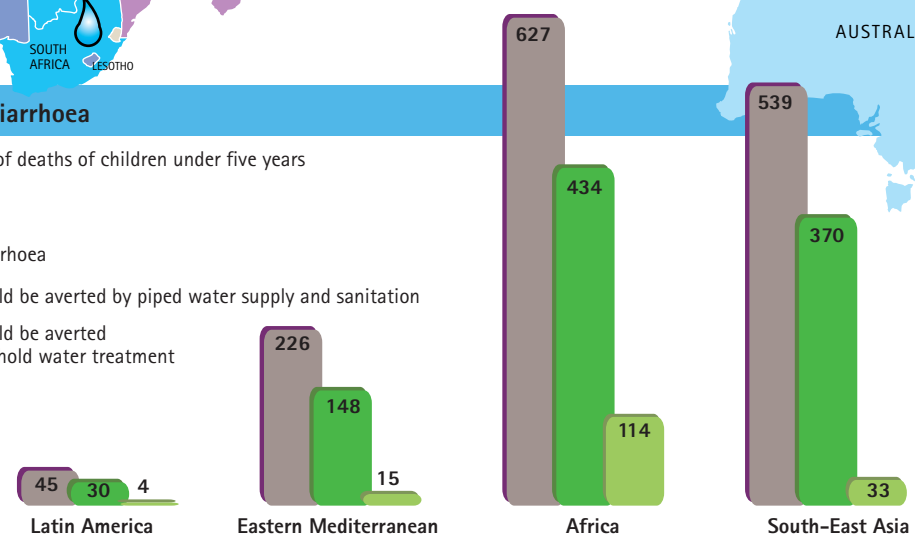
multiple projects on household water management are underway 2004



Preventing diarrhoea

Annual number of deaths of children under five years 2002 thousands

- from diarrhoea
- that would be averted by piped water supply and sanitation
- that would be averted by household water treatment



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