The background features a dynamic, abstract composition of flowing, liquid-like shapes. On the left, there are deep blue and purple tones, while on the right, the colors transition into bright orange and yellow. The shapes are glossy and reflective, creating a sense of movement and depth.

Water-borne Diseases

By Yenisel Cruz

Diseases Related to Water

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graph TD; A[Diseases Related to Water] --> B[Water-borne Diseases]; A --> C[Water-based Diseases]; A --> D[Water-washed Diseases]; A --> E[Water-related Diseases];
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Water-borne
Diseases

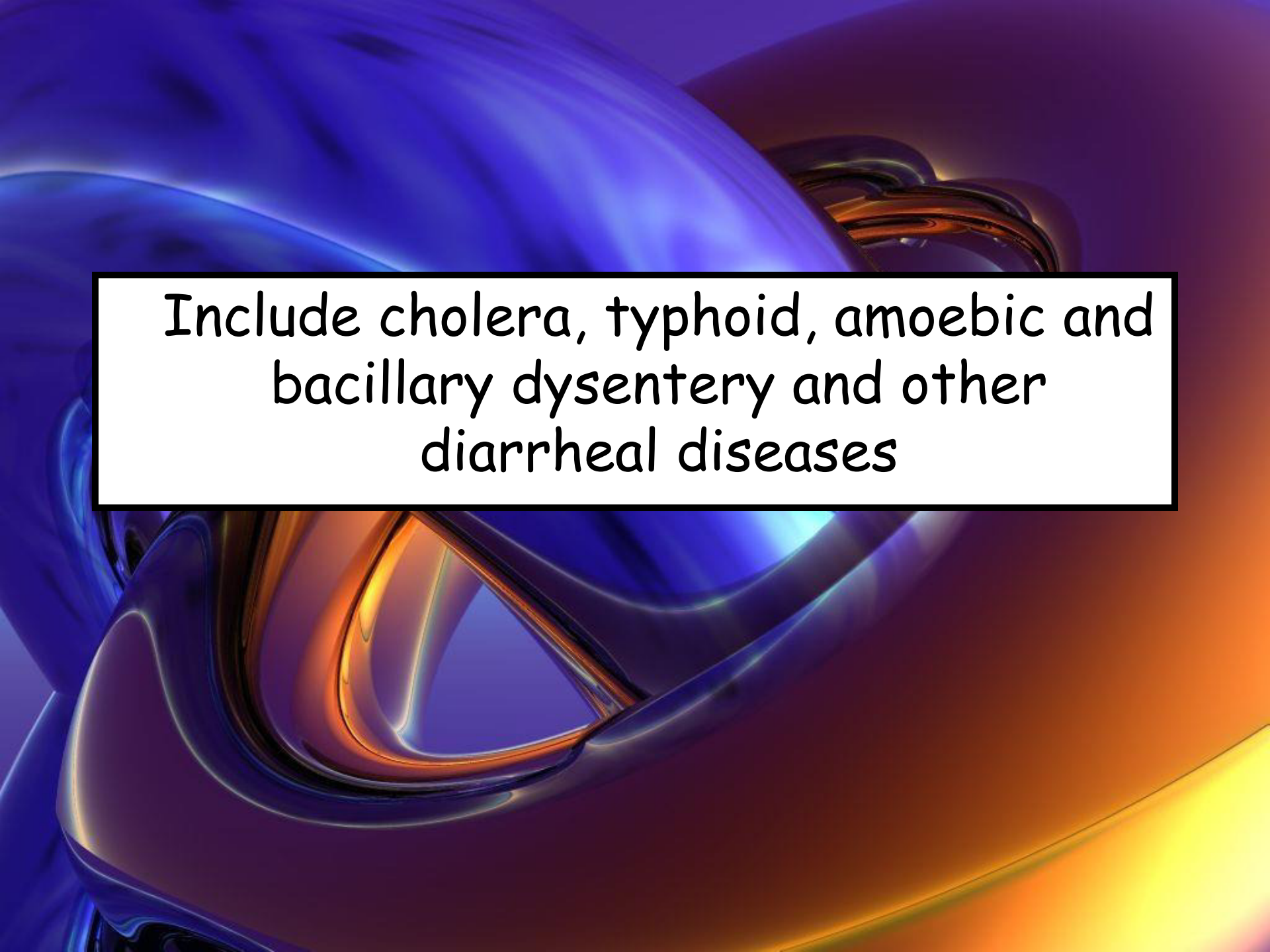
Water-based
Diseases

Water-washed
Diseases

Water-related
Diseases

Water-borne Diseases

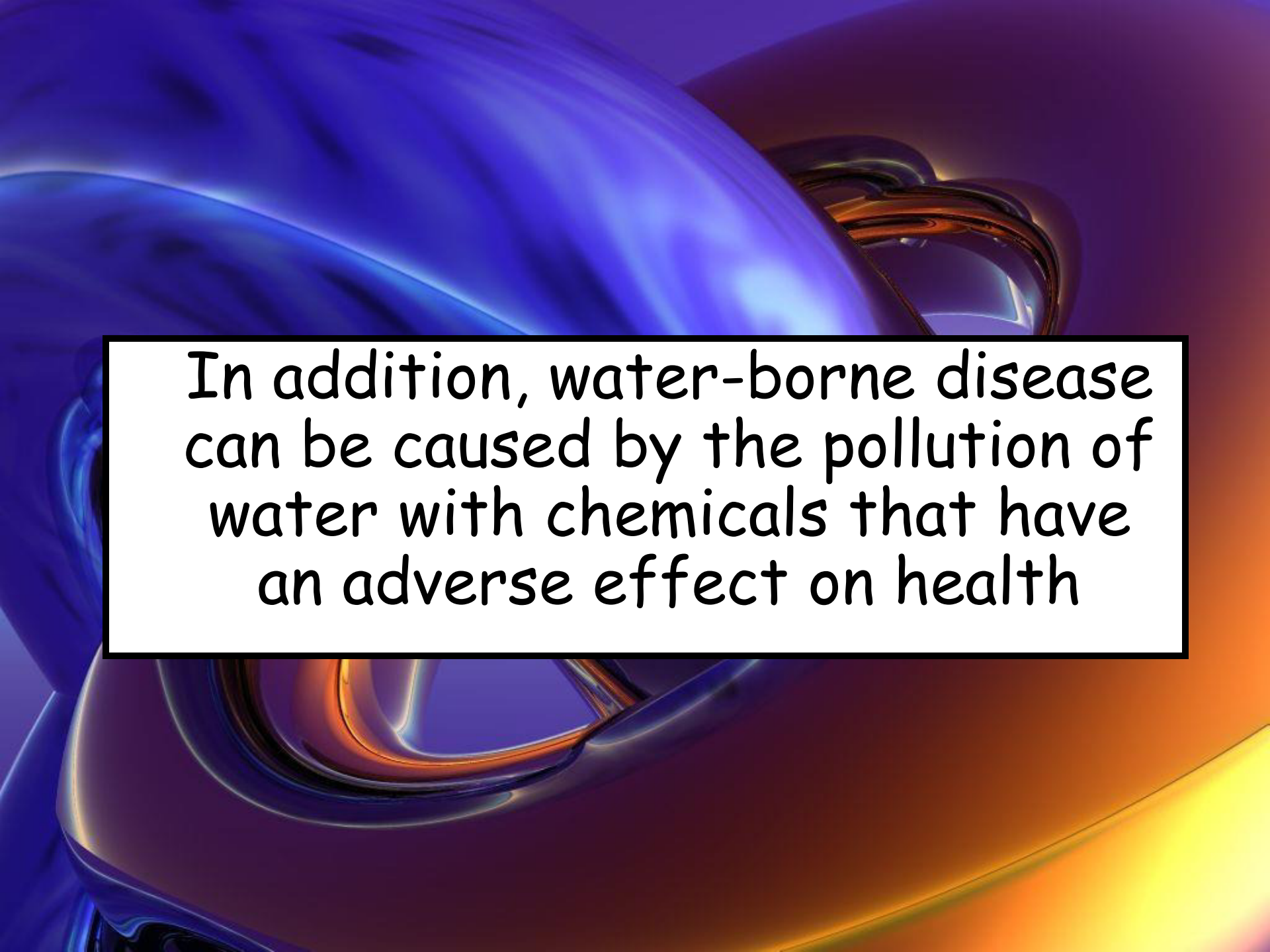
Diseases caused by ingestion of water contaminated by human or animal excrement, which contain pathogenic microorganisms

The background of the slide is an abstract, fluid-like composition. It features deep blue and purple tones on the left side, which transition into bright orange and yellow on the right. The overall effect is that of shimmering, liquid surfaces or perhaps a microscopic view of a biological structure, with highlights and shadows that create a sense of depth and movement.

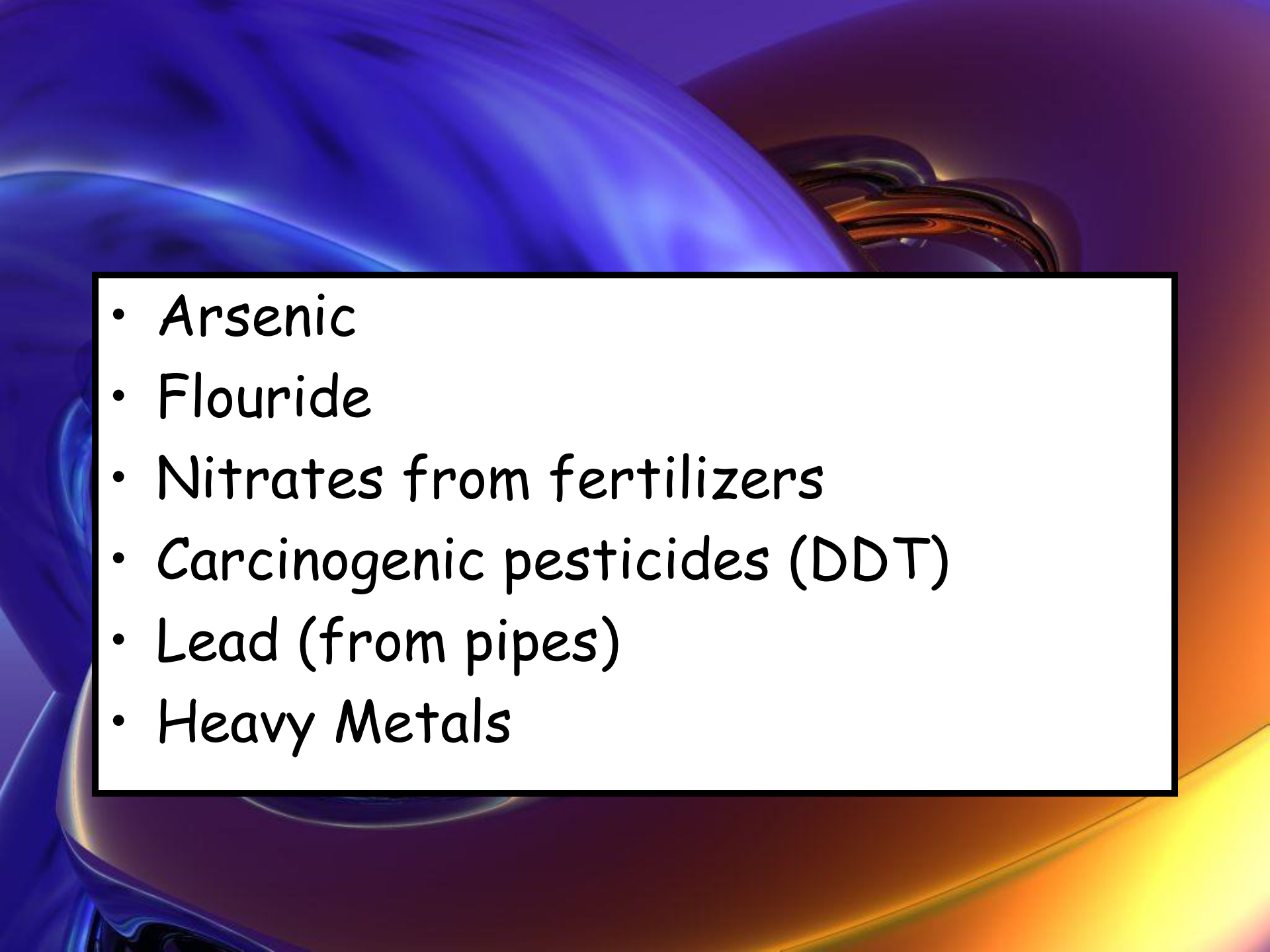
Include cholera, typhoid, amoebic and
bacillary dysentery and other
diarrheal diseases

Diarrheal Diseases

- Giardiasis (Protozoan)
- Cryptosporidiosis (Bacteria)
- Campylobacteriosis (Bacteria)
- Shigellosis (Bacteria)
- Viral Gastroenteritis (Virus)
- Cyclosporiasis (Parasite)

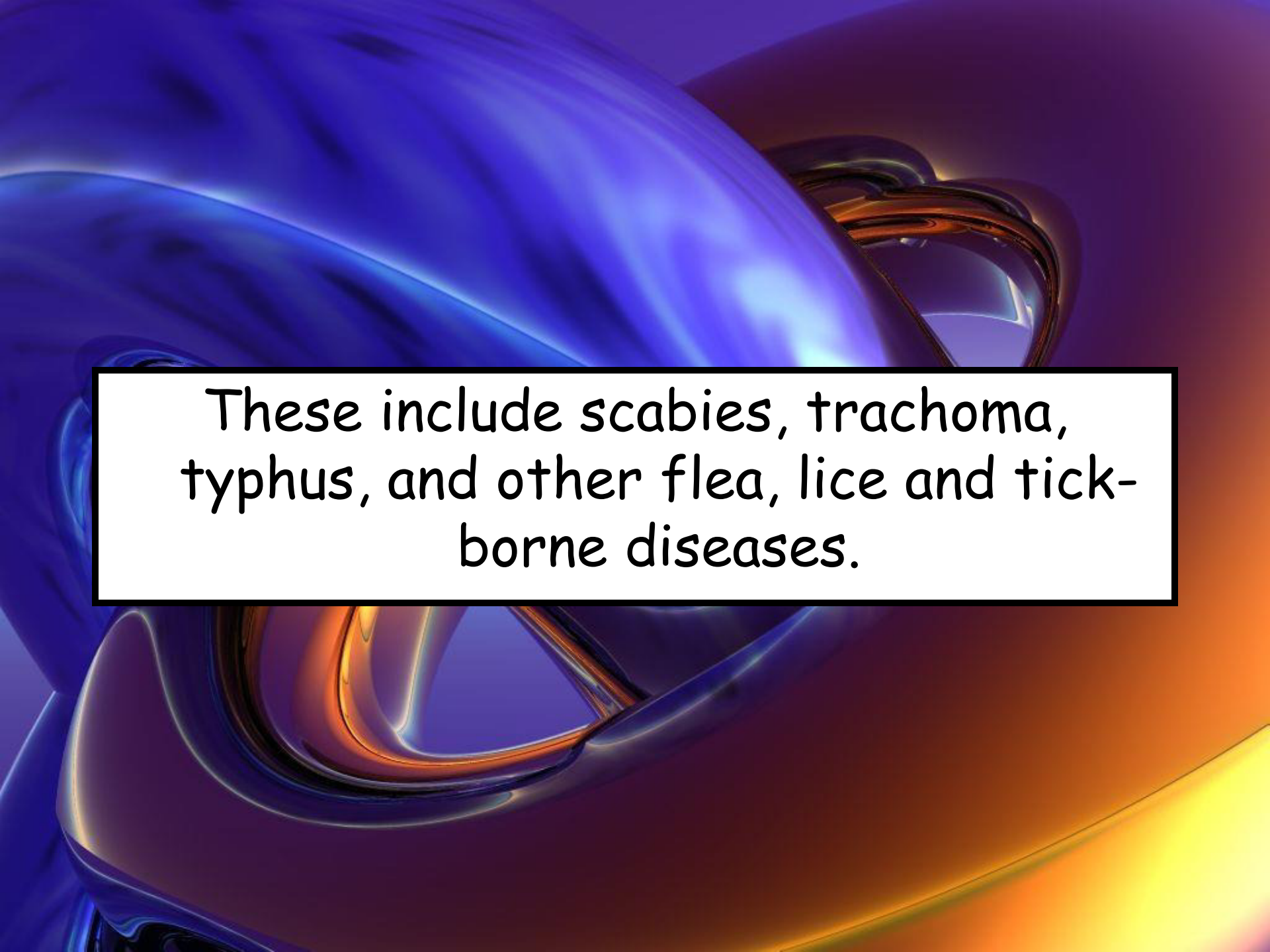
The background features abstract, flowing liquid shapes in shades of blue and orange, creating a dynamic and textured visual effect. The blue shapes are more prominent on the left and top, while the orange and yellow tones are concentrated on the right and bottom.

In addition, water-borne disease can be caused by the pollution of water with chemicals that have an adverse effect on health

- 
- Arsenic
 - Flouride
 - Nitrates from fertilizers
 - Carcinogenic pesticides (DDT)
 - Lead (from pipes)
 - Heavy Metals

Water-washed Diseases


Diseases caused by poor personal hygiene and skin and eye contact with contaminated water

The background features a complex, abstract design with flowing, wavy lines. The color palette is dominated by deep blues and purples, which transition into bright oranges and yellows towards the bottom right corner. The overall effect is one of dynamic movement and depth.

These include scabies, trachoma,
typhus, and other flea, lice and tick-
borne diseases.

Water-based Diseases

Diseases caused by parasites found in intermediate organisms living in contaminated water

The background features a complex, abstract design with flowing, liquid-like shapes in shades of blue and purple, transitioning into warm orange and yellow tones at the bottom right. The shapes have a glossy, reflective quality.

Includes Schistosomiasis and
Dracunculiasis

Water-related Diseases

Water-related diseases are caused by insect vectors, especially mosquitoes, that breed or feed near contaminated water.



They are not typically associated with lack of access to clean drinking water or sanitation services

Include dengue, filariasis, malaria, onchocerciasis, trypanosomiasis and yellow fever

Other Water-borne diseases

- Bathing
- Swimming
- Other recreational activities that have water contact
- Agriculture
- Aquaculture

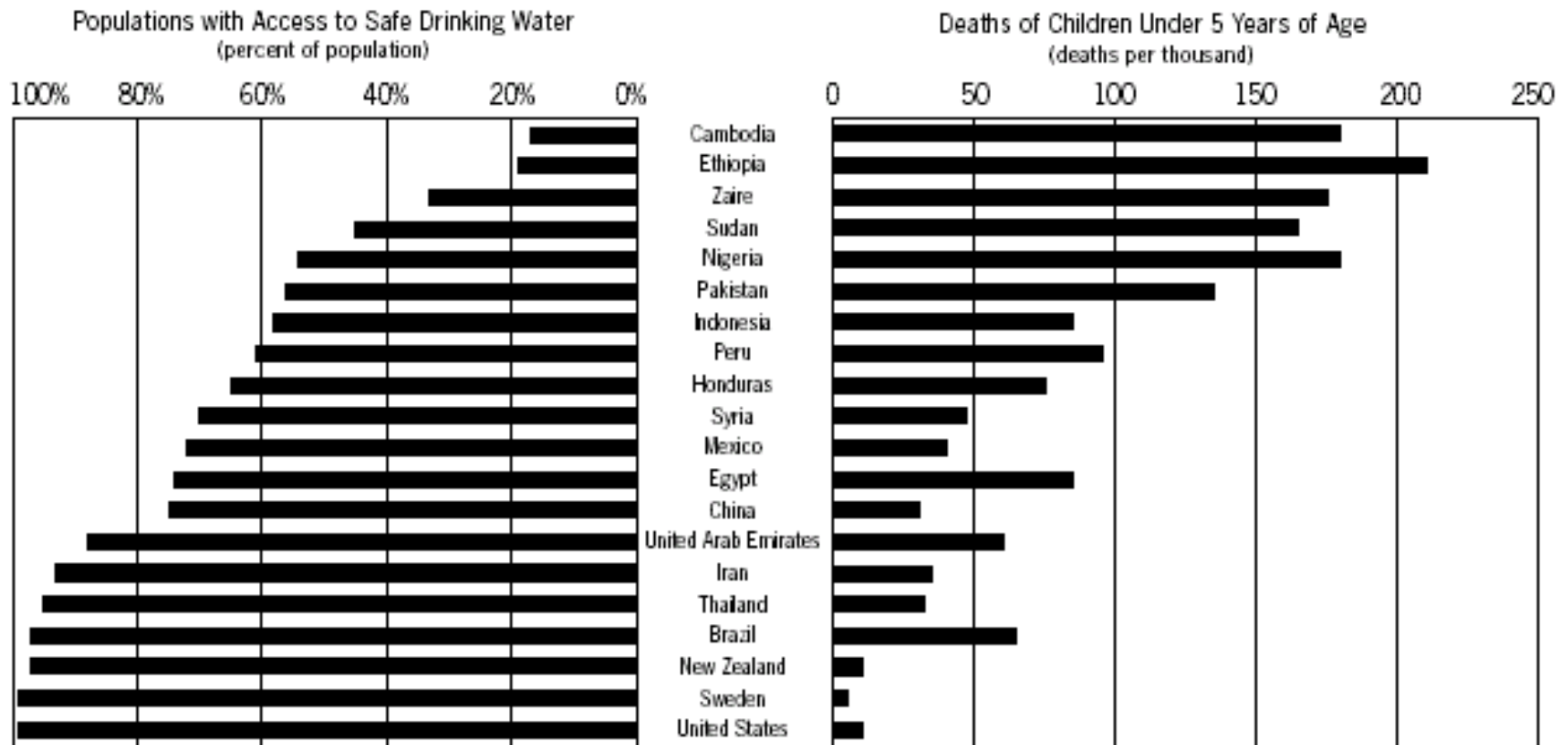
The Problem

- ~80% of infectious diseases
- > 5 million people die each year
- > 2 million die from water-related diarrhea alone
- Most of those dying are small children

Other Consequences

- Lost work days
- Missed educational opportunities
- Official and unofficial healthcare costs
- Draining of family resources

Water Quality & Child Survival

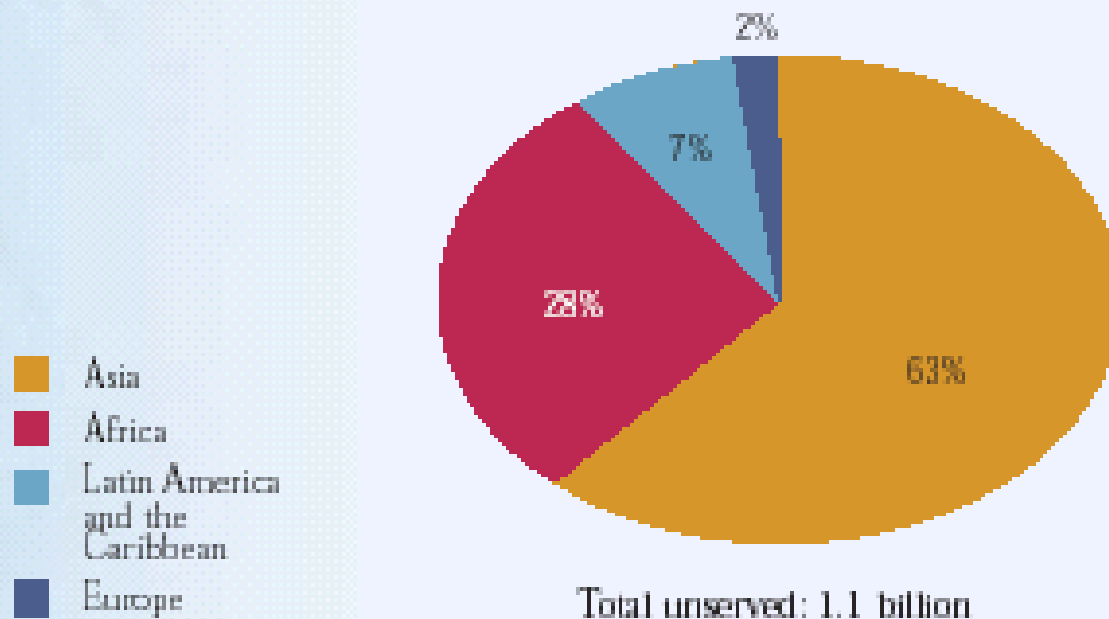


Sources: United Nations Children's Fund, *The State of the World's Children 1993*; Worldwatch Institute, *Worldwatch Paper 64: Investing in Children*, June 1985

WATER SUPPLY, GLOBAL COVERAGE, 2000



DISTRIBUTION OF THE GLOBAL POPULATION NOT SERVED WITH IMPROVED WATER SUPPLY, BY REGION



Total unserved: 1.1 billion

The background features a dynamic, abstract composition of flowing, liquid-like shapes. The primary colors are deep blues and purples, which transition into bright oranges and yellows towards the bottom right corner. The shapes are highly reflective and glossy, creating a sense of movement and depth. A central white rectangular box with a black border contains the text.

Control & Prevention

```
graph TD; Global[Global] --> Governments[Governments]; Governments --> Communities[Communities]; Communities --> Individuals[Individuals];
```

Global

Governments

Communities

Individuals

Education Issues

- Hygiene education
- Good nutrition
- Improvements in habitation and general sanitation
- Higher education training in water-related issues

Global Surveillance

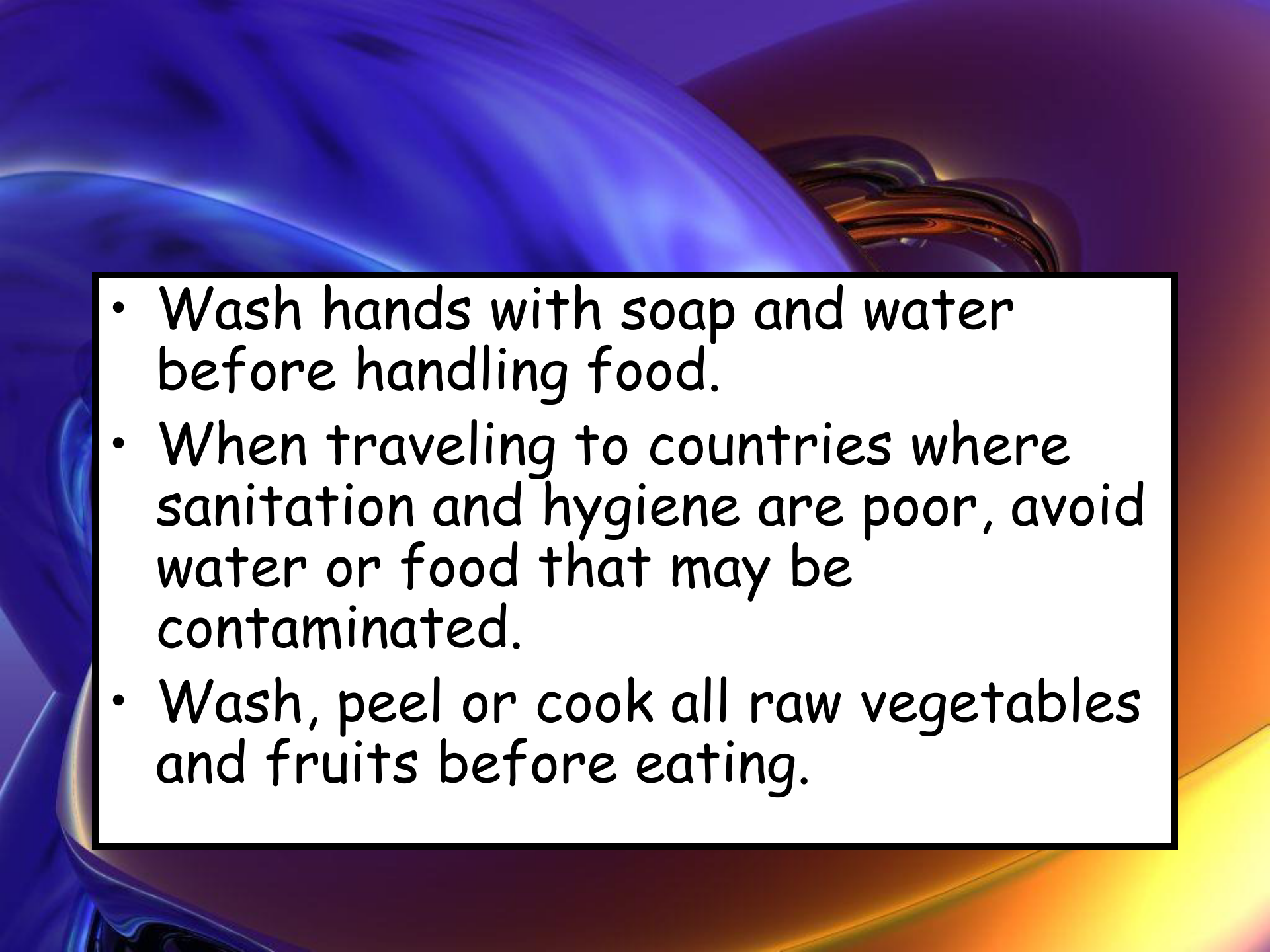
- Public health infrastructure
- Standardized surveillance of water-borne disease outbreaks
- Guidelines must be established for investigating and reporting water-borne diseases

Communication and the Media

- Impacts at all levels
- Very powerful, when others fail

General Guidelines

- Avoid contacting soil that may be contaminated with human feces.
- Do not defecate outdoors.
- Dispose of diapers properly.

- 
- Wash hands with soap and water before handling food.
 - When traveling to countries where sanitation and hygiene are poor, avoid water or food that may be contaminated.
 - Wash, peel or cook all raw vegetables and fruits before eating.



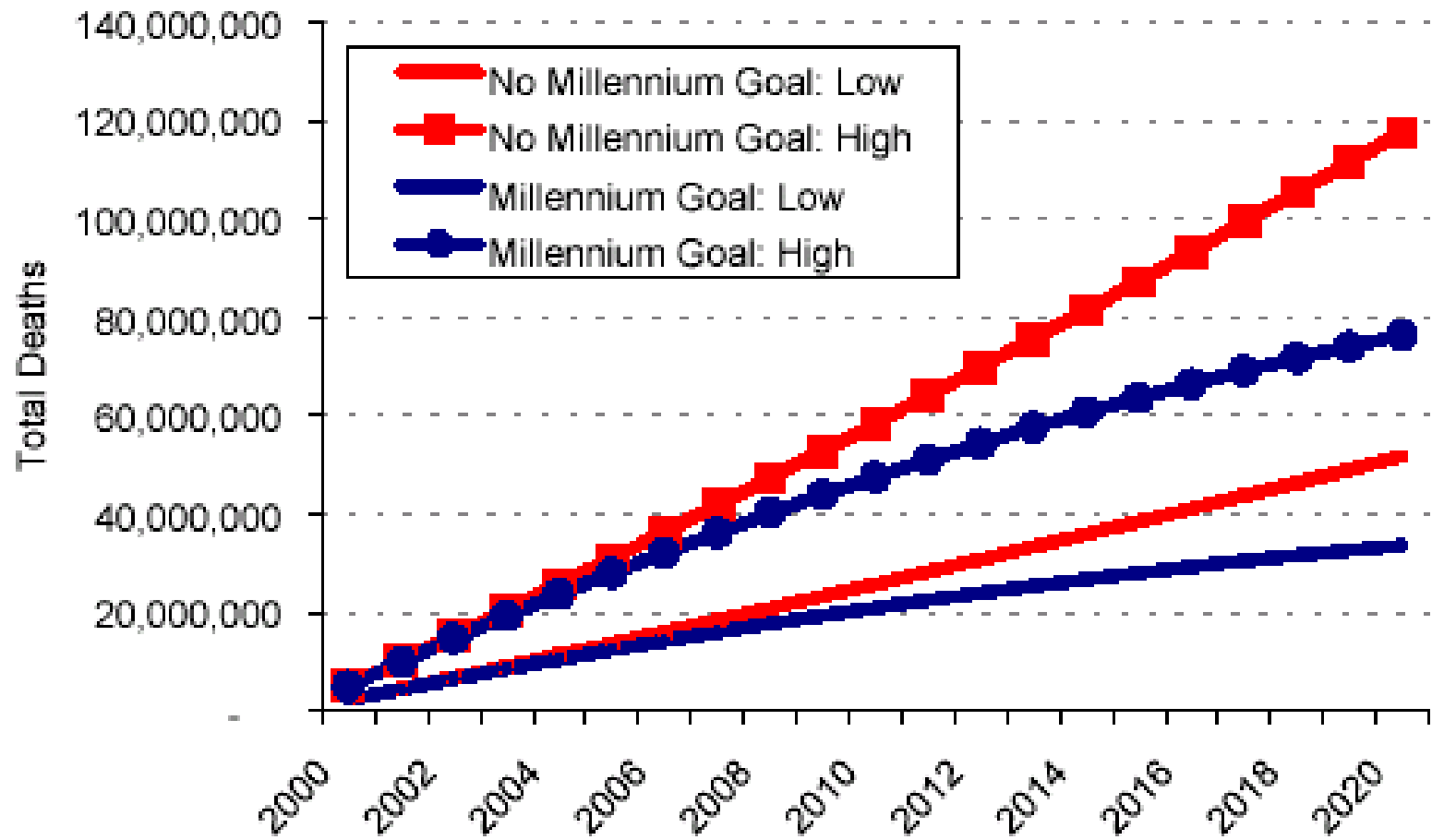
A Simple Rule of Thumb

"Boil it, cook it, peel it, or
forget it"

The Future

Even if by the year 2015 the proportion of people who are unable to reach or to afford safe drinking water is halved, between 34 and 76 million people, mostly children, will die from preventable water-borne diseases

Total Water-Related Deaths: With/Without Millennium Goals



More Challenges

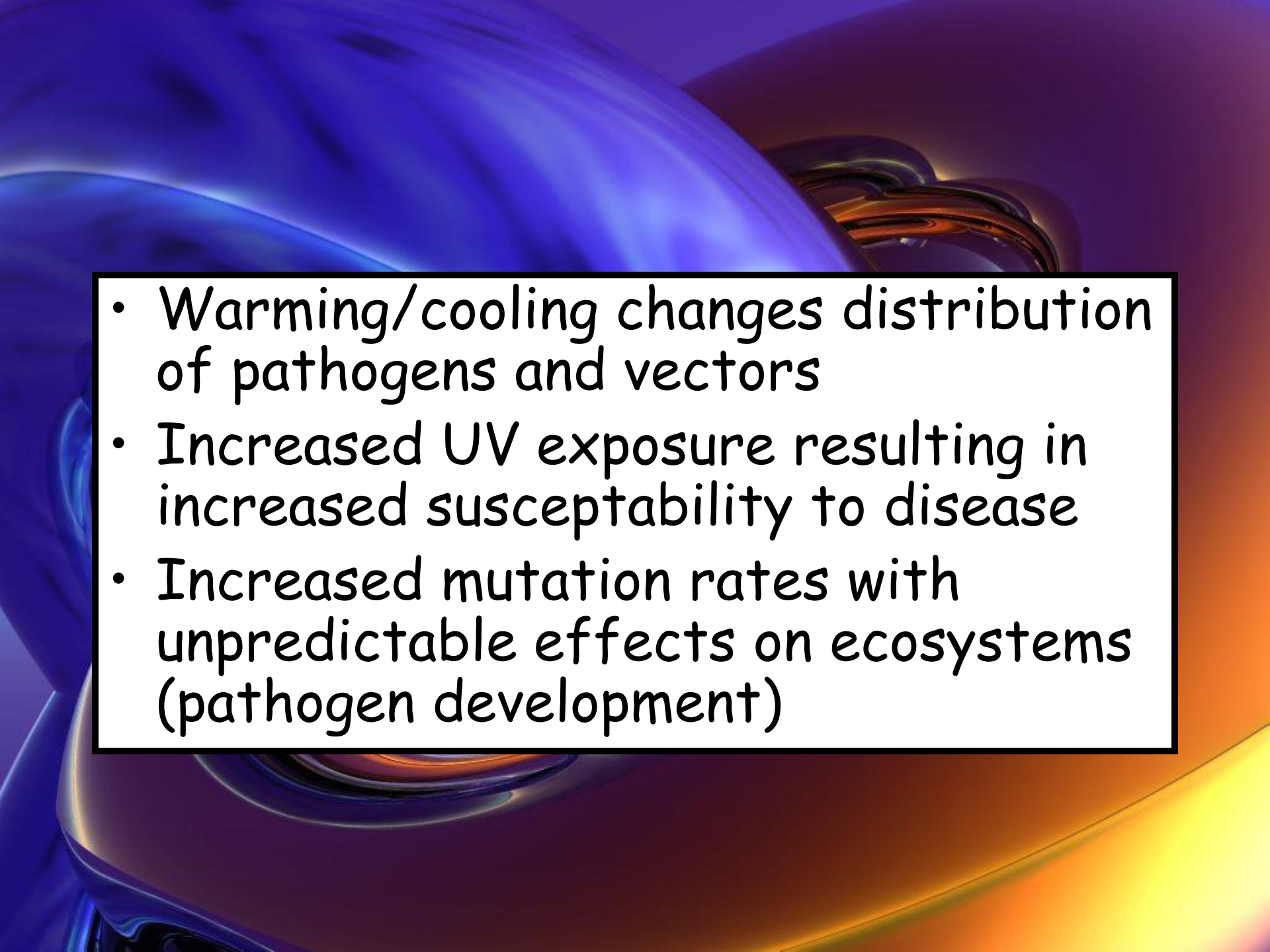
- Developed countries and chlorine-resistant microbes
- Climate Changes
- Economic barriers for developing countries to sanitize large amounts of water

The Answer

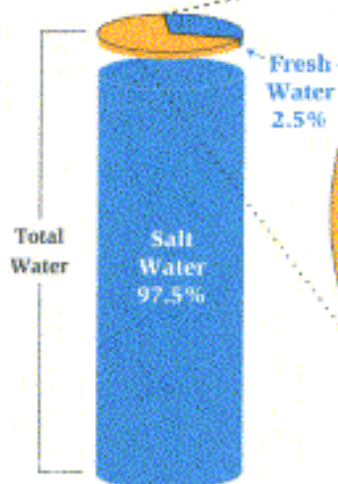
- Unmet human needs for water
- Education
- Commitment to the elimination of specific diseases
- Research

Climate Change

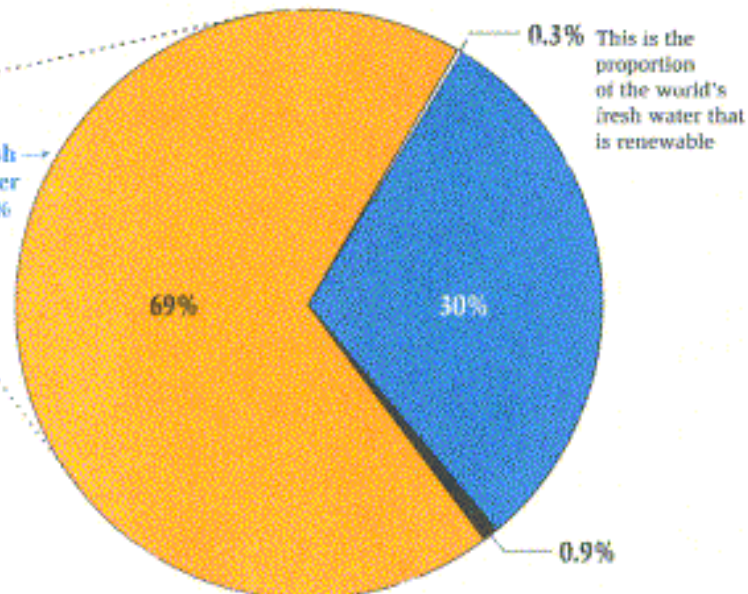
- Water scarcity compromises hygiene
- Reduced water pressure increases risk of back siphoning of contaminated water
- Floods causing breaching of barriers between sewage and water systems

- 
- Warming/cooling changes distribution of pathogens and vectors
 - Increased UV exposure resulting in increased susceptibility to disease
 - Increased mutation rates with unpredictable effects on ecosystems (pathogen development)

Distribution of Global Fresh Water & Salt Water



Distribution of Global Fresh Water Only (2.5% of Global Water)



- 69% glaciers and permanent snow cover (24,060,000 cubic kilometers)
- 30% fresh groundwater (10,530,000 cubic kilometers)
- 0.3% freshwater lakes and river flows (93,000 cubic kilometers)
- 0.9% other, including soil moisture, ground ice/permafrost and swamp water (342,000 cubic kilometers)

(Note: Percentage figures do not add up to 100% due to rounding.)

Source: Igor Shiklomanov, "World Fresh Water Resources" in Peter H. Gleick, ed., *Water in Crisis: A Guide to the World's Fresh Water Resources*, 1993