



Session 3: Environmental Health Indicators

United Nations Statistics Division

**Workshop on Environment Statistics
(Yaoundé, 5-9 December 2011)**



Environmental Health - definition

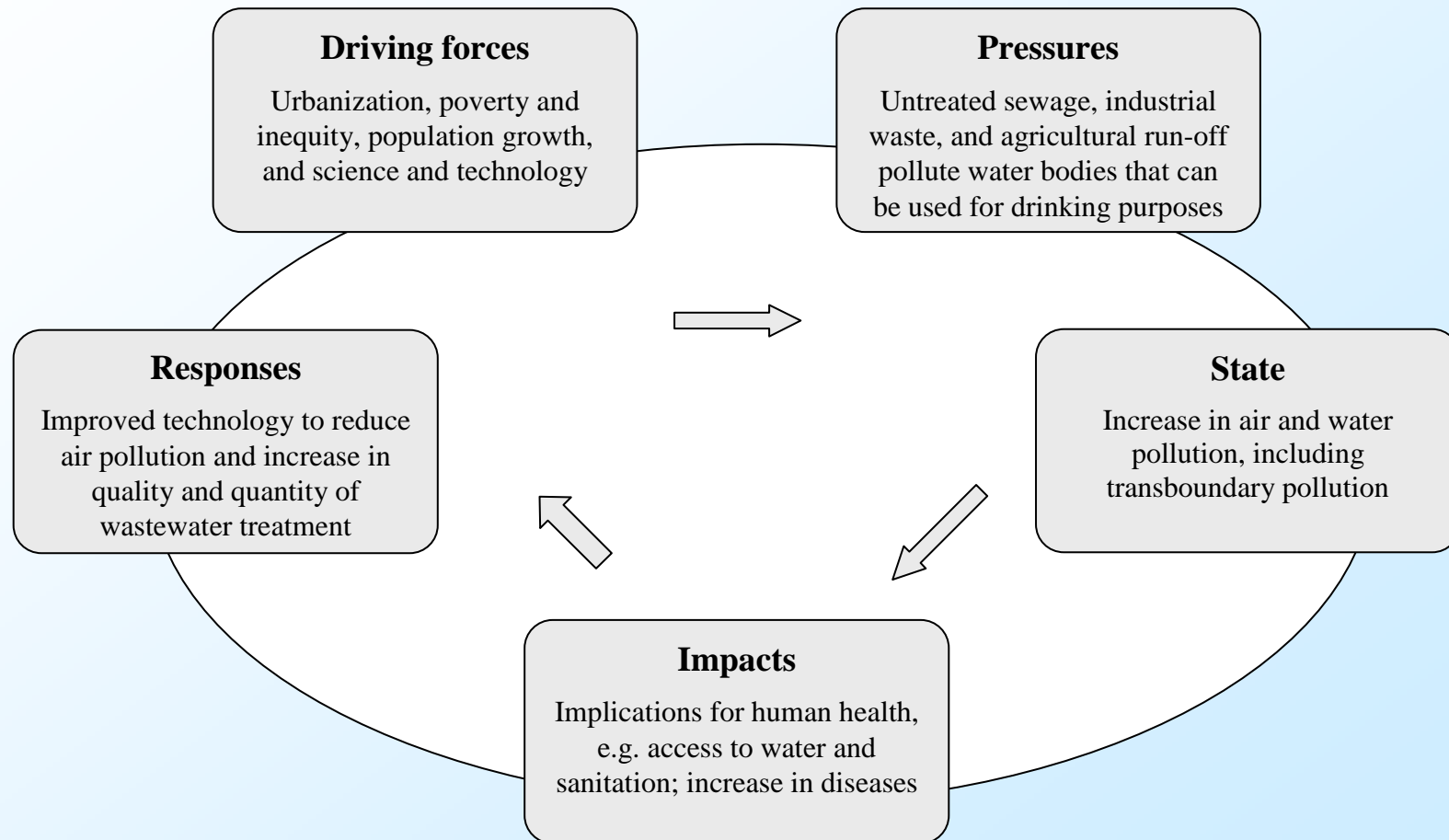
as characterized by WHO

**“aspects of human health,
including quality of life, that are
determined by physical, chemical,
biological, social and psychosocial
factors in the environment”**

**focus of the presentation on the
physical, chemical and biological**



Driving force-Pressure-State-Impact-Response Framework for Env. Health





Impacts on Environmental Health

- **Access to water and sanitation**
- **Increase in diseases**
 - **Water-related diseases**
 - **Diseases related to air quality**
 - **Diseases relating to climate**
 - **Epidemic-prone diseases**



Access to Improved Water and Sanitation

- **Proportion of population using an improved drinking water source (MDG)**
- **Proportion of population using an improved sanitation facility (MDG)**

**data source: Joint Monitoring Programme for
Water Supply and Sanitation –WHO/UNICEF**



Environmentally-related Diseases

- **Water-related diseases**
- **Diseases related to air quality**
- **Diseases relating to climate**
- **Epidemic-prone diseases**



Water-related Diseases

- **Waterborne – drinking contaminated water containing microbial pathogens/chemicals**
- **Water-washed – lack of sufficient quantities of water for washing/personal hygiene**
Examples: cholera, typhoid fever, dysentery, diarrhoeal diseases, polio
- **Water-related diseases can also be transmitted through vectors (such as insects) which carry disease-causing pathogens, passed on to humans**
Examples: malaria, dengue fever, yellow fever, schistosomiasis



Diseases related to Air Quality

- Inhalation of indoor and outdoor air pollution which can cause acute or chronic health effects
- Pollution sources include vehicles, industries, cooking fuels, environmental tobacco smoke
- Pollutants: NO₂, SO₂, CO, VOCs and SPM and diseases include asthma, bronchitis, acute respiratory infections
- Exposure to lead and asbestos which can cause neurological damage, cancer/lung disorders, etc.



Diseases related to Climate

- Climate and infectious diseases are related because disease agents and vectors are sensitive to meteorological factors, such as temperature, rainfall and humidity.
- Due to global temperature rises, disease-carrying insects may have ability to thrive at higher altitudes and in more northern regions. Mosquitoes transmit malaria, dengue fever and yellow fever; sandflies transmit leishmaniasis; tsetse flies transmit trypanosomiasis.
- Diphtheria (airborne bacterial infection) is also linked to climate; it is more likely to be seen in the form of skin infections throughout tropical countries, and as nasopharyngeal infection, a more severe form of the disease, in cooler climates.



Epidemic-prone Diseases

- Disease epidemics can result in sudden decreases of human populations
- Earlier disease epidemics were unavoidable but today they can usually be prevented or alleviated by promoting health education, ensuring early detection of disease cases, and maintaining national disease surveillance programs.
- Examples include: Avian influenza, yellow fever, meningitis, and anthrax



Agreed Set of ECOWAS Regional Indicators

PRIORITY AREA	INDICATOR
Access to safe water and sanitation	PROPORTION OF POPULATION USING AN IMPROVED SANITATION FACILITY [CSD] + (MDG)
	PROPORTION OF POPULATION USING AN IMPROVED DRINKING WATER SOURCE [CSD] + (MDG) (discussed under Freshwater)
Informal settlements	PROPORTION OF URBAN POPULATION LIVING IN SLUMS [CSD] + (MDG)
	Informal settlements, area and percentage of population
Diseases related to water	INCIDENCE OF WATER-RELATED DISEASES
Diseases related to air pollution	INCIDENCE OF AIR POLLUTION RELATED DISEASES