

# Environmental Health (1)

7 Oct. 2021

- Support page

<http://minato.sip21c.org/envhlth-special/index.html>

- Objectives

- One of the core curricula in Master of Public Health (currently we don't have MPH course in Kobe University)
- Understanding health and survival in relation to their environmental conditions (physical, chemical, biological)

- Reference

- Frumkin H [Ed.] (2010) Environmental Health: From Global to Local, 2nd Ed. Jossey-Bass, John Wiley and Sons. (3<sup>rd</sup> Ed. 2016)
- Theodore L, Dupont RR (2012) Environmental Health and Hazard Risk Assessment: Principles and Calculations. CRC Press
- White F, Stallones L, Last JM (2013) Global Public Health: Ecological Foundations. Oxford University Press.

# Subjects

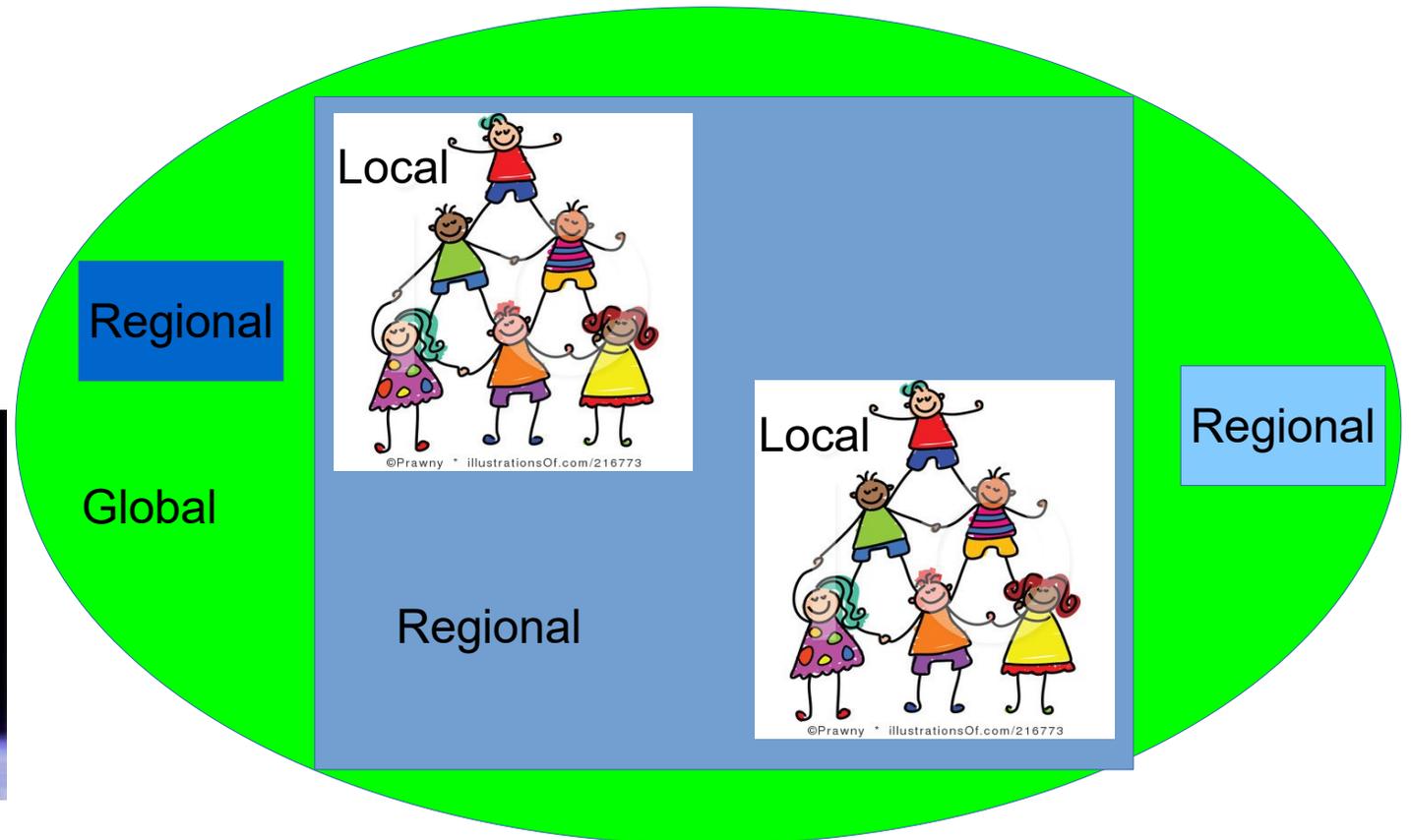
- Methods and paradigms
  - Ecology and environmental health / Toxicology / Environmental and occupational epidemiology / Exposure assessment, industrial hygiene and environmental management / Environmental psychology / Genetics and environmental health, environmental health ethics, environmental justice
- Environmental health on the global scale
  - Population pressure / Climate change / Developing nations
- Environmental health on the regional scale
  - Air pollution / Energy production / Healthy communities / Water and health
- Environmental health on the local scale
  - Solid and hazardous waste / Pest control and pesticides / Food safety / Healthy buildings / Workplace health and safety / Radiation / Injuries / Environmental disasters / Nature contact / Children and environment
- Practice of environmental health
  - Prevention in environmental health / Environmental health practice / Geographic information systems / Risk assessment / Environmental health policy / Risk communication / Legal remedies

# What is Environment?

- "Environment" (in Webster's dictionary)
  - the circumstances, objects, or conditions by which one is surrounded
  - the complex of physical, chemical, and biotic factors (as climate, soil, and living things) that act upon an organism or an ecological community and ultimately determine its form and survival



(special case)



# What is Environmental Health?

- WHO (2004): Environmental health comprises those aspects of human health, including quality of life, that are determined by physical, chemical, biological, social and psychological factors in the environment. It also refers to the theory and practice of assessing, correcting, controlling, and preventing those factors in the environment that can potentially affect adversely the health of present and future generations
- Agency for Toxic Substances and Disease Registry, cited in US Dept. Health and Human Services (1998): Environmental health is the branch of public health that protects against the effects of environmental hazards that can adversely affect health or the ecological balances essential to human health and environmental quality

# What is Environmental Health? (cont'd)

- European Charter on Environment and Health (1990): Environmental health comprises those aspects of human health and disease that are determined by factors in environment. It also refers to the theory and practice of assessing and controlling factors in the environment that can potentially affect health. It includes both the direct pathological effects of chemicals, radiation and some biological agents, and the effects (often indirect) on health and well-being of the broad physical, psychological, social and aesthetic environment, which includes housing, urban developmental land use and transport

# History

- Ancient Origin
  - "Environment (incl. Disasters) affects comfort and well-being" was widely recognized, such as Hippocrates' "On Airs, Waters, and Places" [<http://classics.mit.edu/Hippocrates/airwatpl.mb.txt>] (See, Miller G (1962) <https://www.jstor.org/stable/24620862>).
  - Challenges (endangered food safety, polluted water, air pollution -- smoke in caves) forced us to consider the health effects of environment
- Industrial Awakenings
  - 17th - 18th C: sanitarian issues "The urban environment fostered the spread of diseases with crowded, dark, unventilated housing; unpaved streets mired in horse manure and littered with refuse; inadequate or nonexisting water supplies; ..." affected many kinds of diseases in cities like London.
  - Charles Turner Thackrah (One of the pioneers of occupational health – and built Leeds Infirmary, examined human blood nature, and so on – in early 19<sup>th</sup> C, see <https://doi.org/10.1093/occmed/45.6.285>), William Farr (Public Health Authority in 19<sup>th</sup> C London, first believed Miasma theory), John Snow (A father of epidemiology, found the cause of cholera epidemic in 19<sup>th</sup> C London)
- Modern Era
  - Rachel Carson "Silent Spring" [[http://www.spmc.pk.com/Download/RC\\_Silent\\_Spring.pdf](http://www.spmc.pk.com/Download/RC_Silent_Spring.pdf)] (1962) → Chemical hazards / POPs problem / Love Canal in Niagara Falls
    - Meyer CA (2021) [<https://doi.org/10.3390/literature1010002>]
  - New aspects: environmental psychology, ecohealth, carrying capacity, health care services and environmental exposures -- environmental health policy, vulnerable subgroups (environmental justice), global challenges, sustainability
  - "Conflicts of interest" problem