

# Global Environmental Change, Health, and Policy

Winter 2020

School of Public Policy

Central European University

**No. of credits:** 2

**Course e-learning site:** [CEU Moodle](#)

**Schedule:** Wednesday, 1:30-3:10

**Instructor:** Tiziana Centofanti, Visiting professor, School of Public Policy and Dept. of Environmental Sciences and Policy (CEU)

**Contact:** [centofantit@spp.ceu.edu](mailto:centofantit@spp.ceu.edu)

**Office hours:** Wednesdays 11.30-13.00 (or by appointment)

## Course description

Humans are the primary drivers of global environmental changes such as climate change. In this course, students will learn the impacts of global environmental changes on the environment and their consequences for human health and well-being. The effects of and capacity to respond to global environmental health threats often lie outside the control of any one nation-state and outside the health sector. The focus of this course is on the socioeconomic production of environmental health risks and how science and public policy are contested by various stakeholders. Understanding the foundation of these conflicts is key to effective public health policy. This course will draw on multiple case studies to explore environmental health problems such as those caused by climate change.

The course will culminate in a simulation game on global negotiations on mercury contamination as a case to explore the prospect of collective action to manage environmental risks. Since this is a course in public health policy, only a basic understanding of the biological and chemical nature of environmental pollution will be needed.

## Learning outcomes

In this course, students will learn about, and reflect upon:

1. Describe the major categories of environmental health determinants that impact population health

2. Explain current environmental risk assessment methods
3. Identify how human factors such as perceived risk, values, and trust influence the approaches used to manage environmental health risks
4. Define the role of risk communication in environmental health
5. Describe approaches for assessing, preventing, and managing environmental hazards that pose risks to human health and safety
6. Identify, evaluate, and effectively communicate personal thinking regarding policies and plans that seek to make public health policy more democratic

## Evaluation

- Class participation 10%
- Short tests and written assignments 40%
- Final paper 50%

*Brief Summary of graded course requirements*

*One minute paper:* it is a very short, in-class writing activity in response to an instructor-posed question, which prompts students to reflect on the day's lesson and provides the instructor with useful feedback.

*Commentary:* A commentary is a set of critical notes on a text. You are requested to read the following paper [Royte E. 2018. We Know Plastic Is Harming Marine Life. What About Us? - National Geographic.](#) and write a commentary about it. For further instructions on how to write a commentary see [this](#). The commentary should be max 850 words.

*Final Paper:* Term paper. The student will write an imaginary/mock interview between a scientist and a policy maker. The scientist provides the facts and the policy maker is supposed to use the facts to plan the policy. The interview should be based on a real environmental health policy issue for which the student will search the relevant facts needed to write the interview. Max. word count 2500.

*Suggested Text Books*

- David, B. 2006 Environmental Health and Policy. Open University Press. London.
- Johnson, B. L and Lichtveld, M. Y. Environmental Policy and Public Health. 2017. CRC Press, London.
- Frumkin, H. 2016. Environmental Health. Jossey-Bass, San Francisco.

## Class structure

### **Week 1: Environmental health policy, what it is and why we need it**

Readings:

- Steffen, W., Persson, A., Deutsch, L., Zalasiewicz, J., Williams, M., Richardson, K., Crumley, C., Crutzen, P., Folke, C., Gordon, L. and Molina, M., 2011. The Anthropocene: From global change to planetary stewardship. *Ambio*, 40(7), p.739.
- Frenk, J., Gmez-Dants, O. and Moon, S., 2014. From sovereignty to solidarity: a renewed concept of global health for an era of complex interdependence. *The Lancet*, 383(9911), pp.94-97.

### **Week 2: Fundamentals of environmental health policy making**

Readings:

- Posner, S.M. and Cvitanovic, C., 2019. Evaluating the impacts of boundary-spanning activities at the interface of environmental science and policy: A review of progress and future research needs. *Environmental science & policy*, 92, pp.141-151.
- Johnson, B. L and Lichtveld, M. Y. *Environmental Policy and Public Health*. 2017. Chapter 5.

### **Week 3: Risk management and precautionary principle**

Readings:

- Stirling, A., 2007. Risk, precaution and science: towards a more constructive policy debate: Talking point on the precautionary principle. *EMBO reports*, 8(4), pp.309-315.
- Ball, D. 2006 *Environmental Health and Policy*. Chapter 5.
- Case study: Lewis, S., Bambra, C., Barnes, A., Collins, M., Egan, M., Halliday, E., Orton, L., Ponsford, R., Powell, K., Salway, S. and Townsend, A., 2019. Reframing participation and inclusion in public health policy and practice to address health inequalities: Evidence from a major resident led neighbourhood improvement initiative. *Health & social care in the community*, 27(1), pp.199-206.

## **Week 4: Perception and evaluation of risk**

### Readings:

- Slovic P. Trust, Emotion, Sex, Politics and Science: Surveying the Risk-assessment Battlefield. *In* The Perception of Risk. Edited by Paul Slovic. London: Earthscan Publications, 2000, pp. 390-412.
- Johnson, B. L and Lichtveld, M. Y. Environmental Policy and Public Health. 2017. Chapter 19.
- Case study: Leme, C., Fleury-Bahi, G. and Navarro, O., 2019. Impact of place identity, self-efficacy and anxiety state on the relationship between coastal flooding risk perception and the willingness to cope. *Frontiers in psychology*, 10.

## **Week 5: Climate change and human health**

### Readings:

- Workman, A., Blashki, G., Bowen, K.J., Karoly, D.J. and Wiseman, J., 2019. Health co-benefits and the development of climate change mitigation policies in the European Union. *Climate Policy*, 19(5), pp.585-597.
- Khafaie, M.A., Sayyah, M. and Rahim, F., 2019. Extreme pollution, climate change, and depression. *Environmental Science and Pollution Research*, pp.1-3.
- Case study: Choon, S.W., Ong, H.B. and Tan, S.H., 2018. Does risk perception limit the climate change mitigation behaviors?. *Environment, Development and Sustainability*, pp.1-27.

## **Week 6: Food safety and Protection**

### Readings:

- Johnson, B. L and Lichtveld, M. Y. Environmental Policy and Public Health. 2017. Chapter 10.
- <http://www.fao.org/fao-who-codexalimentarius/en/>
- Case study: Fuzhi Cheng (2007). Case Study n.3-11, "Food Safety: The Case of Aflatoxin". In: Per Pinstруп-Andersen and Fuzhi Cheng (editors), "Food Policy for Developing Countries: Case Studies." 10 pp.

## **Week 7: Water and health**

### Readings:

- Malik, O., Hsu, A., Johnson, L., Sherbinin, A. (2015). "A global indicator of wastewater treatment to inform the Sustainable Development Goals (SDGs)". *Environmental Science & Policy*. 48: 172-185.
- Case study: Pattanayak, S., Poulos, C., Yang, J., Patil, S. (2010). "How valuable are environmental health interventions? Evaluation of water and sanitation programmes in India". *Bull World Health Organ*. 88: 535-542.

## **Week 8: Collaborative approaches to environmental health - Citizens science**

### Readings:

- Bonney, R., Phillips, T.B., Ballard, H.L. and Enck, J.W., 2016. Can citizen science enhance public understanding of science? *Public Understanding of Science*, 25(1): 2-16.
- Corburn J. *Street Science: Characterizing Local Knowledge*. In *Street Science: Community Knowledge and Environmental Health Justice*, Cambridge, MA: MIT Press, 2005, pp. 47-77.
- Case study: Corburn J. *Tapping local knowledge to understand and combat Asthma*. (Cambridge, MA: MIT Press, 2005), pp.111-144.

## **Week 9: Environment-related noncommunicable and infectious diseases**

### Readings:

- Frumkin, H. and Haines, A., 2019. Global Environmental Change and Noncommunicable Disease Risks. *Annual review of public health*, 40, pp.261-282.
- Johnson, B. L and Lichtveld, M. Y. *Environmental Policy and Public Health*. 2017. Chapter 13.
- Case study: Anthonj, C., Diekkrger, B., Borgemeister, C. and Kistemann, T., 2019. Health risk perceptions and local knowledge of water-related infectious disease exposure among Kenyan wetland communities. *International journal of hygiene and environmental health*, 222(1), pp.34-48.

## **Week 10: Environmental health at the international level**

Readings:

- Williams, B and Taylor, S (2017). "Squaring the circle: health as a bridge to global solidarity in the Sustainable Development Goals". *Archives Disease Child*. 102(5): 459-462.
- Abel, G. (2016). "Meeting the Sustainable Development Goals leads to lower world population growth". *PNAS*. 113(50):14294-14299.
- Forbat, J. (2015). "Environmental Health Policies in Europe: Successes and Failures in Switzerland, Germany, and Belgium". *International Journal of Environment and Health*. 7:231 - 246.

## **Week 11: Review class and preparation for the negotiation game**

The Negotiation game is the Mercury Negotiation Simulation (or, simply, The Mercury Game). It is a multiparty role-play designed to help participants actively learn about science-policy interactions in the context of global environmental treaty-making challenges. The game reflects the dynamics of the real decisions confronting the United Nations Environment Programme, which initiated discussions about the need for a global treaty on mercury.

## **Week 12: Negotiation game**

In this class students will play the Mercury game.