Unit 0.1 The challenge of sustainable development: How can human well-being be improved without degrading the planet's life support systems?

The growing concern for making development sustainable has been a response to tensions implicit in two global trends: rapidly increasing human well-being and rapidly increasing environmental degradation. These two trends, taken together, have come to be the perplexing and alarming characterization of what many are now calling the Anthropocene epoch of the planet's history.

The first of these global trends is described by Angus Deaton (see reading 'c') as "the great escape." It consists of the unprecedented improvements in human well-being that began in the late nineteenth century and accelerated especially in the second half of the twentieth century. By the early twenty-first century more than 80% of the people on Earth had life expectancies higher than those of people in the richest parts of the world as recently as 1950. And the fraction of the world's population living in absolute poverty was lower than it had ever been. This great escape has clearly left some people and regions behind, resulting in substantial and widening inequalities. And as indicated by the consequences of the covid pandemic and other recent disasters, continued success of the "great escape" is not guaranteed. By almost any metric, however, human well-being on Earth has never been higher for more people than it is today.

But this human progress has come with substantial environmental costs. These are reflected in the second major trend characterizing Anthropocene, described by John McNeill (see reading 'd') as "the great acceleration." It encompasses the increasing magnitude and global extent of human impacts on nature. By the dawn of the twenty-first century, no corner of the Earth's environment had escaped transformation by human activities. The great acceleration had certainly entailed significant cases of environmental protection and restoration. But its overall thrust showed few signs of abating, as reflected by increasing attention to the planet's great poisoning by toxic chemicals, the mass extinction of its biota, and above all its multifaceted climate crises.

It has been clear at least since the 1987 report of the Brundtland Commission that the "great escape" from poverty toward equitable improvements in human well-being cannot be sustained in a world that continues to be characterized by its current "great acceleration" in environmental damages. The problem addressed by this course is to understand the long-term, interacting trends of development and environment shaping the Anthropocene: what drives them, how they interact in particular places and sectors, and how they can be transformed in the pursuit of sustainability (see Matson et al. reading 'a').

Preparation for class: To prepare for the class, please:

a) **Read**: Matson, P., Clark, W. C., & Andersson, K. (2016). *Pursuing Sustainability: A Guide to the Science and Practice*. Princeton University Press. Ch. 1, "Pursuing sustainability: An introduction" (pp. 1–13).
This book provides the central text for the course, and we will return to it frequently. It is available from most online book sellers and as a (cheaper) e-book from the usual online sources. A free copy of the first chapter, assigned for this class, is available here from Princeton University Press. Note that the four case studies of the pursuit of sustainability introduced in this reading are presented in greater detail in Appendix A of the book.

b) **Watch**: Steiner, A. (Director). (2020, December). *Humanity's planet-shaping powers—And what they mean for the future | TED Talk*. United Nations Development Program. (19 min.) Link here.

c) **Read**: Deaton, A. (2013). *The Great Escape: Health, Wealth, and the Origins of Inequality*. Princeton University Press. Read Chapter 1: "The wellbeing of the world" (pp. 23-56).

d) **Read**: McNeill, J. R. (with Engelke, P.). (2016). *The Great Acceleration: An Environmental History of the Anthropocene Since 1945*. Belknap Press of Harvard University Press. Read "Introduction" (pp. 1-6) and "Conclusion" (pp. 207-211).

e) **Explore**: Roser, M. (2024). *Our world in data*. https://ourworldindata.org/ .
This is an excellent web site with up-to-date trends and analysis. Pick a couple of the environmental trends and a couple of the social trends mentioned in the other readings for this unit and explore them on the "Our World..." web site (see study question I and II.).

Study Questions to help you get the most out of the readings:

I. **Across generations:** Sustainable development is a multigenerational challenge, concerned with what one generation hands on to the next. Using the "Our World in Data" site (see reading 'e'), compare the state of the world today with its state where and when you, your parents, and your grandparents were born. In particular, as indicators of well-being, compare life expectancy at birth, child mortality rates, and any other property that particularly interests you. As indicators of the environment, compare land use, air pollution rates, and any other property that particularly interests you. Which generations have seen the greatest changes in which aspects of their well-being and environment? The least?

II. **Across regions:** Sustainable development is a global challenge, concerned with how different places around the world compare and interact with one another. Pick a world region that interests you but is different from the one in which you grew up. Using the same "Our World in Data" indicators you explored in (I), compare the multigenerational development pathways of that region and the region in which you grew up. For which of the indicators you considered are the regional differences largest? Smallest?

III. **Across contexts**: The multigenerational, global challenge of sustainable development takes on different faces in different contexts. How would you characterize the similarities and differences in the sustainability challenge faced by actors in the 4 case studies introduced in the Matson et al. reading?

Digging deeper (optional materials for further exploring frontiers in the pursuit of sustainability):

f) **Read** further in Deaton, A. (2013). *The Great Escape: Health, Wealth, and the Origins of Inequality*. Princeton University Press.

g) **Read** further in McNeill, J. R. (with Engelke, P.). (2016). *The Great Acceleration: An Environmental History of the Anthropocene Since 1945*. Belknap Press of Harvard University Press.