2 Population and Environment

Chapter Summary

The relationship between human population and the natural environment (and associated resources) is fundamental to the future of the planet, and therefore, a foundational issue for international studies. Overall, population growth has increased dramatically since the early 1800s, and while it took humanity nearly 10,000 years to reach one billion people, the next six billion came in under 200 years, and a number of issues have arisen as a result. Today, there is a division between countries with fast- versus slow-growing populations, both of which cause significant challenges for governments. Similarly, world population is very unevenly distributed, with areas of both **high population density** (e.g., Asia) and **low population density** (e.g., Oceania). For some countries, an important source of population growth has been **immigrants**, without whom these countries would have stagnant or negative growth rates. However, these immigrant-receiving societies are then confronted with issues of integration, identity, and cultural clash (the French ban on Muslim head scarves is used to explore such issues). **Migrant workers** and refugees are two other population challenges facing different countries, and a case study of the Syrian Civil War is used to highlight the **refugee** crisis. Finally, **urbanization**, which accelerated during the **Industrial Revolution**, brings additional benefits and problems to various governments (the rise of **city-state regions** in Canada is considered in this context).

Environmental issues are closely linked to the human population, especially its tremendous growth rate over the last 200 years. At the broadest level, this relationship is centred on the question of whether or not the planet can support this ever-expanding human population. **Environmental pessimists** are those who think this unlikely and they generally cite a number of problems. Within countries, issues like **environmental management** and **sustainable development** are at the forefront while internationally, the biggest challenge is the **tragedy of the commons**. Additionally, the following subjects all pose significant risks to the future capacity of the **environment** to support human habitation: deforestation, food, water, and oil (or energy, more generally). Arguably the most substantial threat comes from **global warming** and climate change (possibly caused by human activity and the burning of fossil fuels, thereby creating greenhouse gases), which entail a host of serious and damaging consequences for the natural **environment**. Solutions have been attempted to resolve these major problems, but few have been successful. All this evidence seems to support the position of environmental pessimists.

On the other hand, *environmental optimists* dispute the approach of the pessimists and highlight the availability and feasibility of solutions to tricky environmental issues, as well as humanity's ability to adapt, nature's enormity and resiliency, and the potential of technological innovation to generate

new options and paths forward. This debate between the optimists and pessimists continues concerning the future of humanity's relationship to the natural environment, and whether the planet can sustain and support the burgeoning population of the world.

Key Concepts

Antarctic Treaty: signed in 1959, it turned the continent of Antarctica into an international ecological park. Represents an alternative approach to the tragedy of the commons, by creating "public" ownership of common lands, in contrast to the private ownership espoused by the enclosure movement (and its modern-day version for the high seas: exclusive economic zones). (p. 63)

Arab Spring: a broad-based social movement, throughout the Arab world, to resist corruption and oppression by traditionally authoritarian governments, and to push for democratic accountability and respect for human rights. It began in 2010 and has had differential results in various Arab countries, ranging from a change of government in Egypt to the civil war in Syria. (p. 51)

Asylum: when a refugee is offered admission into a new country. (p. 50)

Biodiversity: the abundance and variety of plant and animal life that has been proven instrumental in the creation of many beneficial medicines and pharmaceutical treatments. (p. 65)

Carbon sinks: cleansers of air that soak up carbon dioxide and release oxygen; forests, especially rainforests are examples of these. (p. 65)

Cartel: a small group of suppliers that controls the majority of the supply of a particular good (e.g., oil). When they co-operate, the cartel members can heavily influence the price of the good in question. An example of a cartel is OPEC. (p. 70)

City-state regions (CSRs): areas that are almost self-contained, with all of life in the region centred around a particular municipality. In the Canadian context, a good example would be the Greater Toronto Area (GTA). (p. 55)

Creative city: a dynamic, growing city with three particular features: a substantive creative class, a creative economy, and pleasing city conditions. (p. 57)

Creative class: one feature of a creative city. The segment of the workforce that gets paid to think; includes not only those in "creative" industries like entertainment, fine arts, culture, publishing, and fashion, but also professionals like doctors, engineers, and lawyers. At least 30 per cent of a city's workforce should be labouring in these areas. (p. 57)

Creative economy: one feature of a creative city. This includes inventive white-collar work providing services that improve quality of life and/or difficult-to-design, value-added goods. (p. 57)

Debt-for-nature swap: a country's international trade partners offer some national debt forgiveness, instead of repayment, in exchange for environmental preservation. (p. 66)

Demographers: experts who study population issues (demographics). (p. 46)

Desalination: the process whereby salt is removed from water so that it becomes usable and drinkable. (p. 67)

Enclosure movement: an attempt to remedy the tragedy of the commons that afflicted public grazing lands in England, where common areas were divided up and sold to individual farmers who then had an incentive to maintain these lands. (p. 62)

Environment: Earth's various and most vital natural cycles and systems, upon which humans depend for life and well-being. These include the atmosphere, the land, resources under the land, fresh water, sea life, the plant world, and the animal kingdom. (p. 58)

Environmental management: finding the right balance between using enough resources to satisfy present demands while leaving enough for future generations. (p. 61)

Environmental optimists: those people who think the problems highlighted by the environmental movement are not unsolvable and that solutions do exist to these significant challenges. (p. 60)

Environmental pessimists: those people who think the Earth will soon be unable to support the burgeoning human population. (pp. 58–59)

Environmental politics: how relations of power within, and between (i.e., international), national societies impact the environment, especially in terms of pollution and the distribution of natural resources. (p. 61)

Exclusive economic zones (EEZs): modern-day version of the enclosure movement, designed to solve tragedy of the commons in the high seas, which is public, unowned common space. Countries are given exclusive economic control over 200 miles of water off their coasts, so they can be responsible and maintain these areas. (p. 62)

Global warming: recent, systematic warming up of the Earth, as evidenced by increasing global temperatures, which are thought to be responsible for climate change. Consequences of global warming will be severe for the human population and the environment. Some controversy exists as to whether this is human-made or not. (p. 72)

Green Revolution: movement between 1940 and 1980, to export the latest technology and innovation in agricultural practices from the Global North to the Global South. As a result, grain production has tripled over the last 50 years. (p. 66)

Immigrant: those who leave their home country voluntarily, seeking to make a new and better life for themselves and their children. The motives of an immigrant are usually economic. (p. 50)

Immigration corridor: heavily travelled route taken by people immigrating to one country/region from another in search of better opportunities. (pp. 47–48)

Industrial Revolution: a set of dramatic changes in the production of goods, beginning in the early 1700s. With the invention of manufacturing technology such as the steam engine and the cotton gin,

the mechanized production of goods became possible, replacing older, labour-intensive approaches. The first factories were built to take advantage of this and mass-produce as many goods as possible, eventually leading to innovations such as the assembly line. The Industrial Revolution had an enormous, utterly transformative impact on society, making people much wealthier, creating goods much more quickly and cheaply, accelerating urbanization, and transforming the nature of work and the economy. (p. 53)

Industrialization: mechanized mass production using large-scale advanced machinery and artificial measures; a prime source of pollution. (p. 59)

Inflation: an increase in the price of goods and services within a country. High rate of inflation is associated with economic growth, but too high of a rate can cause serious problems. (p. 70)

Internally displaced persons (IDPs): like refugee, but within their own country. (p. 50)

Kyoto Protocol: international treaty in 1997 that attempted to address global warming and cut greenhouse gas emissions. Divisions between the Global North and Global South resulted in the failure of the treaty to accomplish its objectives. (p. 73)

Labour-intensive: industries that are not heavily mechanized and require a lot of "people power," like picking fruit, washing dishes, or cleaning people's houses. (p. 49)

Migrant workers: people who have citizenship and a permanent home in one country but live temporarily, for work purposes, in another. They tend to work in industries that pay very little and are very labour-intensive. Agriculture is perhaps the largest example. (p. 49)

Montreal Protocol: international treaty in 1987 that helped restrict and eliminate the use of chlorofluorocarbons (CFCs), which were causing depletion of the Earth's ozone layer. Cited as an example by environmental optimists that solutions to environmental challenges are available and feasible. (p. 77)

Multicultural: respect cultural diversity while still maintaining social peace and political unity. (p. 48)

Neo-Malthusians: social demographers influenced by English economist Thomas Malthus. They believe that the incredible growth of the human population is simply unsustainable, and soon, there will be too many people for the planet to support. (pp. 57–58)

Non-renewable resources: supply is finite. These include fossil fuels (coal, oil, and natural gas) in general. (p. 71)

One-child policy: a set of regulations promulgated by China's Communist Party to control family size and manage population growth in response to China's population challenges. (p. 45)

Oil crisis: occurred when OPEC cut the supply of oil (starting in the early 1970s), substantially driving up the prices. Initially caused inflation throughout Western society, which turned eventually into stagflation. The crisis did not end until the 1980s. (p. 70)

Organization of Petroleum Exporting Countries (OPEC): one of the most important cartels in the world. Founded in 1960 to control oil production and thereby increase oil prices. Today, has 14

member countries, including six in the Middle East, six from Africa, and two from South America. (pp. 69–70)

Peak oil theory: a theory predicting negative economic consequences once oil production reaches its peak (or maximum output). Beyond this point, there will be less and less oil to extract, yet more and more demand for oil (due to population growth and industrialization). Most peak oil theorists believe that worldwide, peak oil has already arrived. (p. 71)

Pleasing city conditions: one feature of a creative city. Pleasing city conditions means the city is not primarily industrial, nor is its layout routine, nor is its infrastructure drab or decrepit. There are elements of inventiveness and innovation to the design of the city. (p. 57)

Pollution: the waste or by-products from humanity's use of and activities on the environment. (p. 58)

Population density: useful measure of population, which tracks how many people there are in a given square mile or kilometer. (p. 47)

Precautionary principle: a maxim of environmentalism suggesting that if you are unsure of whether a practice is safe (or if you think it might be dangerous or cause pollution), then as a matter of prudence, you ought not to proceed. Taken in the context of global warming, the principle would suggest that even if we do not know if humans are behind this problem, it would be better and safer to change behaviours and minimize any potential damage caused by humans, than to wait for definitive proof because it might be too late at that point for safeguarding the environment. (p. 76)

Pro-natalist: governments that want to promote birth and population growth for their countries. (p. 46)

Refugee: people who have been forced to leave their home countries involuntarily, usually because of war or persecution. (p. 50)

Resources: inputs used to produce something, such as food. These inputs include all features of the environment. (p. 58)

Renewable resources: supply is theoretically infinite. These include solar, wind, and hydro power. (p. 71)

Rural flight: people leave the countryside in the hope of dining better opportunities in the city. (p. 54)

Stagflation: when inflation and stagnant (or slow) economic growth happen together. (p. 70)

Sustainability: not using resources to exhaustion and not polluting the environment to the point of its being poisoned; managing growth and consumption so future generations can continue to benefit from the same resources that are being used today. (p. 61)

Sustainable development: economic progress based not on creating growth for its own sake, but on stimulating growth that is measured, paced, reasonable, and consistent with what the world can support. It is about growing an economy in a way that can continue for future generations. (p. 61)

Tragedy of the commons: when things are owned in common, or are unowned, the result tends to be a decline in both the quality and quantity of the thing. When no one is responsible or pays for an asset, that asset tends to fall apart or get completely used up. A famous example involved public grazing lands in England, which were eventually left useless by over-grazing because no one was responsible for their maintenance. (p. 62)

Urbanization: growth of cities at the expense of the countryside. Urbanization has been a relentless trend, in both developed and developing countries, over the past 200 years. The majority of the world's people, overall, now live in cities. (p. 52-53)

Water-poor: those who live on five litres (or less) of drinkable water a day. (p. 68)

Study Questions

Scroll to the end for answers.

1. What have been the upsides and downsides to China's one-child policy?

2. What is an immigration corridor and what are the four biggest ones today?

3. What is a creative city?

4. What is the precautionary principle?

Weblinks

The Guardian's Interactive Timeline of the Arab Spring Protests
https://www.theguardian.com/world/interactive/2011/mar/22/middle-east-protest-interactive-timeline

- A dynamic tool that collates the various events of the Arab Spring in chronological order, and which can further delineate the incidents by country

Foreign Policy Article: "The End of the Amazon?"
http://foreignpolicy.com/2009/06/16/the-end-of-the-amazon/
Foreign Policy Article: "A Proxy War in Peru"
http://foreignpolicy.com/2010/05/19/a-proxy-war-in-peru/

- Two articles in *Foreign Policy* magazine, both about the ongoing debate between environmental protection and economic development; and both use the Amazon Rainforest (in Brazil and Peru, respectively) as a case study to further explore these issues

World Population History
http://worldpopulationhistory.org/project-overview/

- An interactive website that lets people explore the population growth of humanity from multiple perspectives, such as historical, environmental, social, and political; data come from a

variety of scholarly and official (e.g., government) sources; the website is run by a non-profit organization devoted to educating the public about global population issues

US Census Bureau
https://www.census.gov/

- American government branch tasked with examining and publishing population related information

Statistics Canada
https://www.statcan.gc.ca/eng/start

- Canadian government agency whose mandate is to collect, compile, analyze, abstract, and publish statistical information relating to various features and conditions of Canada's population

Further Readings

Homer-Dixon, Thomas. 2007. *The Upside of Down: Catastrophe, Creativity and the Renewal of Civilization*. Toronto, ON: Vintage Canada.

Homer-Dixon, Thomas. 2001. *The Ingenuity Gap: Can We Solve the Problems of the Future?* Toronto, ON: Vintage Canada.

- These are two books by well-known Canadian academic Thomas Homer-Dixon. Both books tackle the big problems of our times, including population and environmental challenges, and suggest possible solutions and ways forward for all of humanity.

Carson, Rachel. 1962. *Silent Spring*. Boston, MA: Penguin Books.

- One of the original books that helped launch the modern environmental movement, this classic by Rachel Carson investigates the effects of rampant pesticide use and its impacts on the natural environment.

Klein, Naomi. 2014. *This Changes Everything: Capitalism vs. the Climate*. New York, NY: Simon and Schuster.

- Klein, a well-known Canadian author and activist, addresses the relationship between the currently dominant capitalist economic system and the challenges of climate change.

Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. New York, NY: Cambridge University Press.

- In this book, a Nobel prize-winning American economist Elinor Ostrom examines different approaches to resolving the tragedy of the commons and develops an institutional analysis to better consider the problem and possible solutions.

Answers to Study Questions

1. The main upside to the policy is actually controlling China's enormous population growth; for instance, China's population growth rate fell from 1.7 per cent in 1975 to 0.6 per cent in 2006. The downsides include increased abortions and abandonment of baby girls as parents seem to value boys more highly; as a result, there is a disproportionate surplus of males over females in China today. Wealthier couples could also bribe officials to have more children and the policy is a fundamental restriction on personal freedom and liberty. (pp. 45–46)

2. An immigration corridor is a heavily travelled route taken by people immigrating to one country/region from another, in search of better opportunities. The biggest immigration corridors today are from Mexico into America, from Central and Eastern Europe into Germany, from Eastern Europe into Russia, and from the rest of the Middle East/North Africa into Saudi Arabia and the United Arab Emirates. (pp. 47–48)

3. A creative city is a dynamic, growing city with three particular features: a substantive creative class, a creative economy, and pleasing city conditions. A creative class is that segment of the workforce that gets paid to think. A creative economy includes inventive white-collar work providing services that improve quality of life and/or difficult-to-design, value-added goods. Pleasing city conditions means there are elements of inventiveness and innovation to the design of the city. (p. 57)

4. The precautionary principle is a maxim of environmentalism suggesting that if you are unsure of whether a practice is safe (or if you think it might be dangerous or cause pollution), then as a matter of prudence, you ought not to proceed. Taken in the context of global warming, the principle would suggest that even if we do not know if humans are behind this problem, it would be better and safer to change behaviours and minimize any potential damage caused by humans, than to wait for definitive proof because it might be too late at that point for safeguarding the environment. (p. 76)