**The Human Population – Reading Questions (pp. 179-198)**

1. What was Malthus’ prediction about the carrying capacity of the Earth, and why was he wrong?
2. What do you think the major constraining limits on human population growth are? (In other words, what will be the critical limiting resources that determine Earth’s carrying capacity for humans?)

**Demographics**

1. Provide the formula for calculating the change in population size over a given period of time:

1. What does the TFR of a country measure, and why is it an important demographic measurement?
2. How does Life Expectancy vary across the globe, and what are the major factors that influence it?
3. What information do population pyramids show, and why are they important demographic information?
4. What is underlying cause of the demographic transition that most countries go through as they develop?
5. Complete the following chart regarding the demographic transition:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Stage I** | **Stage II** | **Stage III** | **Stage IV** |
| What happens? |  |  |  |  |
| Why? |  |  |  |  |
| Impact on pop? |  |  |  |  |

1. What major factors tend to reduce the number of children families have?
2. Based on the experiences of Thailand, Kenya and China in promoting family planning, what do you think the key is to reducing population growth in developing countries? Is this goal beneficial or harmful?

**Development, Consumption, IPAT**

1. How do the annual population growth rates of developed countries compare to developing countries?
2. Where is most of the future growth in the human population expected to happen?
3. Why does calculating the per-capita ecological footprint for a country allow us to approximate the affluence level of the society?
4. What are the 3 terms in the IPAT equation that affect a society’s impact on its environment? Give an example of how a change in each would cause a change in the society’s impact.
5. How can the technology factor of the IPAT equation work to either increase OR decrease the impact of a society on the environment?
6. As a country develops economically, its impact on the environment shifts from local to global scales. Using your knowledge of the industrial revolution, explain why this is.
7. Contrast the types of environmental problems which occur from local environmental impacts (typically in developing countries) and global environmental impacts (typically from developed countries).
8. How does the percentage of people living in urban areas in developed countries compare to developing countries? How is this expected to change in the next 20 years?
9. We find that countries with very low GDPs per capita have little impact on the environment, then the impact rises as GDP increases, until eventually the impact begins to decrease. What causes this pattern (low impact🡪 rising impact 🡪 falling impact)?
10. Some environmental scientists have argued that increasing the GDP of developing nations is the best way to decrease their impact on the environment. Explain why this is, and whether or not you agree.

**The Human Population Vocabulary List**

|  |  |  |
| --- | --- | --- |
| **Term** | **Description** | **Example** |
| Crude Birth Rate (CBR) |  |  |
| Crude Death Rate (CDR) |  |  |
| Doubling time |  |  |
| Total Fertility Rate |  |  |
| Replacement-level fertility |  |  |
| Developed countries |  |  |
| Developing countries |  |  |
| Infant mortality |  |  |
| Child mortality |  |  |
| Age structure diagram |  |  |
| Population pyramid |  |  |
| Population momentum |  |  |
| Demographic transition |  |  |
| Family planning |  |  |
| IPAT Equation |  |  |
| Urban area (census definition) |  |  |
| Gross domestic product (GDP) |  |  |