

David's Questions

1!! One sometimes hears the following statement made regarding world population.

“The number of people in the world is actually surprisingly small. In fact, all of the people on the entire planet could fit into Thurston County. Therefore population size or growth is not the source of any problems.”

a! Is it true that all could do fit into our county? Recall that Thurston County has a surface area of 727 square miles, and world population size is currently about 6 billion.

b! Whether this statement is true or false, what are at least three different types of population-related phenomena that it overlooks, that suggest serious problems associated with continued population growth?

c! What statement would you offer about world population size that would give a more informative view of the likely impact of 6 billion people (& growing) on future human welfare?

2!! The statement is often made that *“Every child born in the United States will have ten times the global environmental impact of a child born in a developing country.”*

a! What is meant by that statement? What is implied?

This statement is never made; *“Every immigrant that enters the United States will have ten times the global environmental impact of a child born in a developing country.”*

b! Is it true? Why, or why not? Why do you suppose that no one says this?

c! The United States will acquire about 100 million additional residents (at least half of them immigrants) by 2050, if present trends continue. How and why does this differ in its likely impact on future human welfare from the addition of 100 million people to developing nations? What can/should be done about it?

3!! With concern growing about global climate change, renewed attention is directed toward nuclear power generation. What role, if any, do you see for this technology? Please respond by addressing the following.

a! What fuels do fission reactors use? What are the sources of the fuels? What Industries are needed to obtain the fuels, and fabricate them into fuel rods suitable for use in reactors? How do the fuels create electricity? What becomes of them after they are used?

In both of the following, envision as many environmental, social, economic, or other consequences as you can, both positive and negative, of adopting nuclear power on a larger scale.

b! What are the possible or likely contributions that fission reactors might make toward mitigating climate change and environmental disruption, if adopted on a large scale?

c! What are the possible or likely drawbacks of adopting this technology on a larger scale?

d! All things considered ... would you advocate adopting more nuclear power, in general or in certain restricted circumstances? Why, or why not?

4! In which country or geographic region, in your opinion, is the most critical and urgent deterioration likely to take place in the next 10 years involving (or resulting from) ...

a! global climate change;

b! malnutrition and hunger;

c! loss of biodiversity;

d! shortage of fuel;

e! shortage of water;

f! spread of epidemic disease;

g! generation of greenhouse gases;

h! population growth;

i! economic dislocation?

Select one of these categories. Explain why you named the region you identified. Why do you believe that the situation in this region is more urgent than in any other? What solutions have been identified for this type of hardship by our seminar authors – Wright, Soros, Elwood, Roberts, Wilson, Brown? What solution would *you* propose, and when and how would you implement it, if you could?

Bret's Questions

1. According to the telomere theory of senescence, why does the body grow more fragile with age? When does this increase in vulnerability begin? Does natural selection view senescence as a positive, negative or neutral process with respect to fitness? What is the likelihood that medical science will understand senescence in our lifetimes? What is the chance that medical science will cure senescence in our lifetimes? Why are those last two answers different?
2. According to the trade-off theory of latitudinal diversity, where are the most effective biological competitor species likely to be found? And where are the least competitive species likely to be found? When ecologists go into a forest and discover that the trees are capable of withstanding winds that are ten times as strong as the strongest winds ever recorded in the area (much stronger than any individual tree is likely to ever face), it seems that nature has wasted material on the trunk that could have been better spent on leaves or seeds or other parts that might have enhanced the tree's fitness. What should they conclude about natural selection on tree trunk strength? Is it as inefficient as it appears?
3. Is education necessary to solve environmental problems? Is it sufficient to solve them? What role should it play? If we base the solutions to environmental problems on personal responsibility, what will happen? How will society evolve in response? What then should we use to solve these problems? Is it true that the best outcome for a particular (average) corporation is a total lack of regulation? If not, what then would be best for the average corporation? And why do most corporations then agree to oppose the *concept* of regulation? From the point of view of a user of a traditional commons, which is better: a regulated policy of sustainable exploitation or a no-holds-barred policy? Why might that view be different for a timber company in 2005?

Tom's Questions

1. The end of oil is near. What will/should replace it as the main energy source for the developed and the developing world? What might be the 'bridge fuel'? What part should conservation play in the transition period and beyond?
2. Of the terms in the IPAT Equation (Population, Affluence, Technology) which should we most immediately address to minimize impacts on the natural environment?
3. What are the best ways, in your opinion, to protect biological diversity? What is the 'bottleneck', according to E. O. Wilson, through which we must pass to preserve and protect biodiversity?
4. Should the United States agree to the Kyoto Protocol? What are the likely costs and benefits of doing so?
5. Roberts, Wilson, and Brown, each in their own way, argue that China is on the verge of a monumental ecological crisis. What will be the likely nature and dimensions of this crisis? What might be its global consequences?

Collective question. Answer this question as completely and succinctly as possible in a single page. Make it single spaced and use a normal font and font size.

Given everything we have learned and read in IES, what should we as individuals do to most effectively address our environmental crisis? What should we do collectively? What should our priorities and goals look like? What are the costs and benefits of such action, and to whom do they apply? What are the costs and benefits of inaction, and to whom do they apply?