

Econ 105: Introduction to Political Economy

Lecture Twenty-Three: Ecology

Topics covered: (E4E, Ch. 15; Field Guide, Ch. 8)

1. Is growth perpetual?
2. Myths of Environmentalism
3. Environmental Racism and Environmental Justice
4. Political Economy of Climate Change

Is growth perpetual?

Economic growth in the last century has been particularly matter and energy intensive, that is, we have seen unprecedented levels of consumption of natural resources.

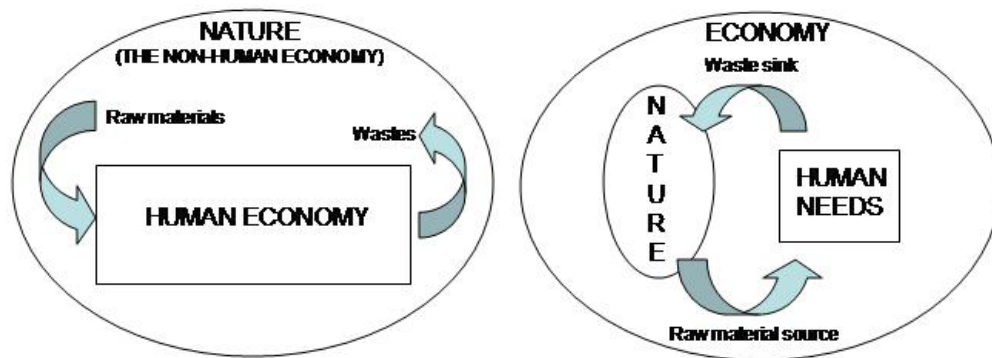
We live in what has sometimes been described as a mass production-mass consumption society. This means that the economic system is geared towards large-scale production of standardized goods and the economy depends critically on a consumption-oriented lifestyle.

The ordinary person typically experiences economic growth in the form of rising real incomes and the ability to buy more goods, and goods that are more expensive. At the macro level economic growth is usually measured in the form of rising Gross Domestic Product.

Although GDP can rise for many reasons, typically GDP growth is a result of an increase in the throughput of matter and energy through the economic system. A richer economy typically consumes more matter and energy per capita than a poorer one.

When posed as an abstract proposition, many people agree that perpetual or infinite growth is not possible on a finite base of resources. Sooner or later we will start eating into the very material basis of our economy in an unsustainable fashion.

This basic proposition is sometimes depicted as follows in the literature on Ecological Economics:



The Ecological economist Herman Daly points out that like everything in economics, one additional unit of economic growth comes with its own marginal cost and its own marginal benefit. As the economy grows, each additional unit of GDP comes with some benefits and carries some ecological costs (and possibly social costs, but we will leave those aside for the moment).

“If marginal benefits of physical growth decline while marginal costs rise (as elementary economic theory would indicate), there will be an intersection beyond which further growth is uneconomic. The richer the society (the more it has grown in the past), the more likely it is that marginal benefits are below marginal costs and that further growth is uneconomic. That marginal benefits fall follows from the simple fact that sensible people satisfy their most pressing wants first, whether in alternative uses of a single commodity or in alternative uses of income. That marginal costs rise follows from the fact that sensible people first exploit the most accessible land and minerals known to them, and that when sacrifices are imposed by the increase of any one activity, sensible people will sacrifice the least important alternative activities first. Thus marginal benefits of economic activity fall while marginal costs rise.

We take the real costs of increasing GNP as measured by the defensive expenditures incurred to protect ourselves from the unwanted side effects of production and add these expenditures to GNP rather than subtract them. **We count real costs as benefits.**”

<http://www.dieoff.org/page88.htm>

Daly thus speaks of a “steady-state economy” i.e. an economy that is not growing beyond what is needed to compensate for population growth.

However there is a broad resistance to the idea of a no-growth economy. The two major arguments against it are:

1. The ethos of continued material improvement or the idea that incomes have to go up in order for a society to be seen as functional and successful. And if incomes don't go up (as has happened in the US in the recent decades), then consumption must grow via some other means (such as incurring debt).
2. Another response to a no-growth economy argument is that many poor people would not see their incomes rise if there were no growth. Thus growth becomes the safe mantra to chant for eradication of poverty and guaranteeing everyone a decent wage and standard of living.

Moreover, as we will see later, if the costs of economic growth are disproportionately borne by a different set of people from those that benefit from growth, there is an added dimension of difficulty in arguing against growth because the costs of growth are not apparent to all parties.

Beyond this generalization however, the actual content of GDP growth may have very different ecological implications. While more cars rather than less always come with an increased ecological cost, cars that are more fuel efficient or less dependent on non-renewable energy sources have a smaller impact on the resource base

Thus the issue of environmental sustainability can be handled at various levels. For e.g.:

1. Overpopulation is often blamed for ecological degradation in the developing world.
2. Technology is often blamed for being not green enough, i.e. not being based on renewable sources of energy.
3. Going further one can question the culture of consumption itself and the mass-production-mass-consumption based idea of a good life.
4. And going further still one can ask whether capitalism and the institutionalized pursuit of profit can ever lead us to a sustainable economic system.

On Thursday we will explore the connections between political economy, consumption and the environment.

Myths of Environmentalism

There are some widely prevalent beliefs in our society regarding economy and the environment. Two common ones are:

1. Economic activity inevitably means environmental degradation

2. In general people in developed countries are more environmentally conscious than people in developing countries.

Let us take each in turn:

1. It is true that economic growth in the last two hundred years has been excessively detrimental to the environment. Western Europe and North America in particular have been responsible for tremendous natural resource depletion and ecological degradation at the local, regional and global level. Seeing the result of such economic development, many have been led to the conclusion that economic well-being must necessarily be in conflict with the environment.

Mainstream environmentalism in the West was born in part out of such a sentiment and therefore has emphasized conservation and preservation.

2. There is a common view that “caring about the environment” is a luxury that only becomes available to people once they have become affluent. Hence poor people in developing countries are concerned mainly with improving their economic standard of living. They are not concerned with the problems of environmental degradation.

Cities in developing countries indeed often densely populated and unhygienic places to live. Growth is rapid and unplanned without due regard to environmental concerns. However, this does not mean that “poor people care less about the environment.”

Let us take one example. This is from a study by Prof. James Boyce of UMass (Green and Brown: Globalization and the Environment, available at <http://www.peri.umass.edu/236/hash/46f3d2fbfb/publication/25/>)

“In the early 1990s, the environmental movement in the United States underwent an acrimonious split over whether to support the proposed North American Free Trade Agreement (NAFTA). Some groups backed the treaty, agreeing that ‘the best way to ensure that Mexico’s environment is cleaned up is to help Mexico become a prosperous country, and that means NAFTA.’ Others opposed it, arguing that ‘the competition to attract investment will result in a lowest common denominator for environmental statutes’ and that ‘the country with the least restrictive statutes will become the floor, and others will harmonize downward to that floor.’

Despite their differences, both sides shared a common assumption: Mexico's environmental practices were inferior to those of the U.S. and Canada. The only point of contention was whether free trade would pull the U.S. and Canada down to Mexico's level, or lift Mexico to the plane of its northern neighbors. Partly as a result, both sides were oblivious to what may turn out to be NAFTA's most serious environmental impact: the erosion of Mexico's rich biological diversity in maize ('corn' in U.S. parlance), as Mexican *campesino* farmers abandon traditional agriculture in the face of competition from cheap corn imported from the U.S."

Environmental Racism and Environmental Justice

Economics and the environment don't only intersect in the realm of costs and benefits of economic growth and production practices or consumption norms.

- Pollution resulting from economic development has not only an ecological but also a political economic dimension. That is, adverse impacts of economic growth and development are not "impartially" distributed throughout the economy. Their impact is differentially felt with race, class and gender.
- The Political Economy of the Environment asks the following questions:
 - Who benefits from economic activity?
 - Who loses?
 - How can the winners enforce costs upon the losers?
- An important achievement of the Environmental Justice Movement in the United States, has been to redefine environmentalism, as something that is not only limited to protecting pandas and rainforests, but rather protecting our own communities where we live and work, from environmental hazards.
- Racial inequality has many dimensions, including unequal exposure to industrial waste. New facilities producing toxic emissions are more likely to be located in neighborhoods where many of the residents are people of color.
- A study in California found that census tracts with higher levels of airborne pollution were home to higher proportions of people of color. As the risk for

exposure to carcinogenic pollution rose, so did the percentage of Hispanic, African American, or Asian American/Pacific Islander residents.

- Because polluted neighborhoods tend to have lower housing costs, many poor people can't avoid living with the pollution. Yet income alone doesn't explain environmental disparities. Even when blacks, Hispanics and whites of equal income are compared, nonwhites are more likely to live in the most polluted sections of American cities.

These injustices have become an issue only because activists in communities of color pushed them onto the radar screen of politicians and mainstream environmentalists. Environmental justice activists insist that every person has an equal right to a healthy environment.

The **Environmental Justice movement (EJ)**, is based on the recognition that very often social and environmental costs of development are intertwined. Because costs of economic activity are often invisible to the decision-makers or the wealthier supporters of a certain project or policy, it is easier to support growth.

The EJ movement demands that the environmental costs of economic development should not be borne only by poorer and less powerful communities.

- Manuel Pastor and his colleagues in California have found in one instance that a mountain of rubble was dumped into a community that was 96% Latino and 42% non-citizen immigrant, with 25% people living below poverty level.
- “And that story of local dumping was borne out in our larger scale study: we found that it turned out that there was a significant difference between which communities received hazardous waste treatment, storage, and disposal facilities – they were more minority and more blue collar.”
- Pastor outlines three popular arguments for justifying this situation:
 - 1. One is the “magic of the market” argument: poor people are poor, their lives must therefore not be so valuable, and so their communities might be good places to put hazards. This is reflected in the prices of real estate – and environmental negatives simply go to places where the housing values and incomes are low. (You will notice that this was one of Summers' arguments above)
 - 2. A second argument is that these are really rational land choices -- environmental hazards are put in places that already have industrial

land or a lot of transit land and therefore these are reasonable places to put such things.

- 3. The third argument about environmental negatives being in low income and minority communities focuses on politics and power; it argues that this is really a reflection of the decision-making process and biases therein.

Political Economy of Climate Change

- Because of massive growth in fossil fuel consumption (coal, oil, and natural gas) over the past two centuries, emissions of carbon dioxide and other chemicals (byproducts of energy use) into the earth's atmosphere have exploded.
- The resulting concentration of these gases (called "Greenhouse Gases" because of the "greenhouse" warming effect they produce) causes the atmosphere to retain more heat energy from the sun, and has produced a visible increase in average global temperatures.
- Even as attempts are made to curb Greenhouse Gas Emissions in the future, climate change will continue for decades as a result of emissions that have already occurred.
- Since this is a global problem, concerted global action is required on part of all governments to meet it. However there are many problems that arise.
- First, several developing countries are still at the point where economic growth is necessary to raise millions out of poverty. These countries do not have the option of saying "no" to economic growth and in the short run this means at least some increased fossil fuel use and increased Greenhouse Gas emissions.
- Further, many developing country representatives have advanced the view that the Global North (the industrialized countries) have largely created the problem of Climate Change due to their past practices.
- "Today, global carbon emissions average about 1 metric ton per year (tC/year) per person. U.S. per capita emissions exceed 5 tC/year, and Japan and Western European nations emit 2 to 5 tC/year per capita (3). In comparison, per capita emissions are about 0.6 tC/year in the developing world, and more than 50 developing countries have emissions under 0.2 tC/year."
- The U.S. is four percent of the world's population but emits 25 percent of the world's greenhouse gases.

- “Ethically, disparate claims to common resources are difficult to justify. The concept that all people have equal rights is a fundamental principle of many modern ethical and legal codes. This concept of equal rights is especially relevant for common pool resources that exist outside the legal control of individuals or nation states.”
- All people should have equal rights to the atmosphere. Countries that contribute the most to global warming should take the lead in solving the problem. Why should developing countries have to pay for the mistakes of the developed countries?
- “Criticisms of a per capita allocation plan are that it is not politically realistic, as it implies transfers of resources from current high to low emitters, and that it would encourage population growth. The latter concern can be addressed by choosing a fixed base-year population or by determining a population baseline incorporating reasonable declines in population growth rates (1, 6). As to the first objection, agreements sustaining unequal emissions levels are not realistic either, because developing countries are unlikely to accept permanent restrictions on per capita emissions levels lower than those of industrialized nations.”
- Some compromise will be essential and several proposals have been advanced. Politicians in the US are often fond of saying that the American way of life is not negotiable. But some hard thinking and ultimately some tough compromises may need to be made.

(Baer et al: Equity and Greenhouse Gas Responsibility

<http://www.sciencemag.org/cgi/content/full/sci;289/5488/2287>)

The Sky Trust

- In addition to traditional environmental regulations, like strict limits on pollution that apply to everyone, governments are trying market-based alternatives.
- One somewhat successful example is the tradable permit system used to reduce sulfur dioxide (SO₂) emissions that cause acid rain. The government sets a limit on total SO₂. Facilities that produce it can buy and sell emission permits within the government’s limit. If a company can easily reduce emissions, it is allowed to make money by selling its permits to another company that can’t.

- Some people have proposed using this type of plan to control greenhouse gas (GHG) emissions that lead to global warming. One version is the “Sky Trust.”
- Congress would set a cap on annual carbon emissions, a ceiling that would decline over time.
- Producers of GHG would have to pay into the trust, creating an incentive to reduce emissions. The permits could be most easily sold “upstream”: at the ports, pipelines, and mine heads where fossil fuels enter the economy.
- The permit cost ultimately will be passed along to consumers.
- The money from the sale of emissions permits would go into a dedicated trust fund, analogous to the Social Security Trust Fund, rather than into general government revenues. The fund would be managed by trustees whose responsibility is to protect the asset—in this case, the limited capacity of the atmosphere to absorb carbon—in the interests of current and future generations.
- If the quantity of permits is set at a level designed to meet the rather modest emission-reduction goals for the US in the Kyoto Protocol, their value could be in the neighborhood of \$300 billion.
- All residents would receive an equal payment from the trust. Most people, especially those with middle- and lower-incomes, would receive more than they pay, because they produce less than the average share of GHG. Because higher-income households, on average, consume more energy-using goods and services, they would pay more into the fund than they received.



(From the Field Guide, Chapter 8)