Neoliberalism and the Erosion of Science in Environmental Policy

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Regarding most contemporary environmental issues, there has been an erosion of thought and evidence-based decision-making in the American democracy, as citizens, politicians, and the judicial branch actively ignore the findings from environmental science, especially the science of climate change. This is occurring at a time of unprecedented expansion of scientific knowledge about climate change and its drivers, and just as we come to understand the urgent need for action throughout society.

The erosion of science in environmental policy has largely been driven by the authority of a neoliberal worldview and a misplaced faith in markets to address contemporary environmental problems. Economics has become the language of public policy because of the perceived superiority of quantitative analysis and intellectual authority provided by economic theories. Neoliberalism has been associated with the resurgence of ideas of economic liberalization, privatization, deregulation, and free trade, and these ideas have come to dominate discourse surrounding public policy, including environmental policy since the late 1970s. Neoliberalism ideas maintain that markets deliver benefits that could never be achieved through planning.

Neoliberalism presents several problems for environmental planning and policy. First, it redefines citizens as consumers, despite the fact that citizens do not choose to be exposed to environmental hazards or contamination. Second, it redefines choices in the context of buying and selling, yet similarly, citizens do not buy or sell environmental quality; rather the environment is embedded in decisions where there is imperfect information, such as the influence of water quality on the value of housing. Third, in neoliberalism, merit is rewarded, and inefficiency is punished; yet when efficiency is measured by unknown costs and probabilities of environmental harm, notions of merit are misguided and often misinformed.

Conventional economic models that are developed to inform public policy are based on three fundamental frameworks that are poorly suited to address contemporary challenges such as climate change. First, the market prices of goods and services such as food or energy are assumed to reflect the marginal costs and benefits to society of their production and consumption. However, most environmental values are not considered in markets and are often ignored in policy decisions.

Second, economic models are based on marginal analysis, whereby the marginal (or incremental) cost of reducing harm or risk is assumed to be associated with some marginal benefit to society. It turns out that many environmental problems do not involve marginal changes to environmental quality. Oil spills, nutrient deposits in waterways, and air pollution are examples of events that can create sudden changes in environmental quality that impact social and economic well-being. Such changes are not marginal or incremental in nature.

Third, in economic models, analysis of the risk of exposure is based on the concept of expected value, whereby the anticipated outcome is estimated as the sum of the net benefits of all possible outcomes multiplied by the probabilities of their occurrence. However, most contemporary environmental problems are characterized by high levels of uncertainty, whereby the probabilities of possible outcomes are simply unknown.

As a result, we are left with environmental policy that is based largely on cost-benefit analysis, where the values of ecosystem services are not recognized by markets, where changes in environmental quality are non-marginal (i.e., not incremental), and where the probability of outcomes is unknown. Formulation of environmental policy based on this approach is not fully informed, and therefore it is not useful in addressing contemporary environmental challenges.

The erosion of science in environmental policy—and the dominance of economics in that role—is largely driven by a misplaced faith in markets to address contemporary environmental problems. This neoliberal ideology does not consider the non-market values of environmental benefits such as ecosystem services that sustain life on Earth, and economic analysis based on cost-benefit analysis is not sufficient for decision-making under uncertainty, especially with regard to the impacts of climate change.

Contemporary environmental challenges are beset with high levels of uncertainty and value conflict, and conventional economic models are poorly suited to address such challenges, with their singular focus on economic growth. A high level of conformity in the economics profession and in academic institutions makes it difficult for economists to embrace new paradigms that are better aligned with environmental problems.

Contemporary environmental challenges call for a new language of progress. They require us to consider the evolution of a new economic system that reflects 21st-century knowledge and challenges. Such a system should reconsider the role of markets in a just and sustainable society, and the changes that are needed in our economic system to allow us to alleviate poverty while staying within biophysical limits. The principles of ecological economics emphasize the need for policies that are based on the precautionary principle, which is better aligned with decision-making under conditions of irreversibility and uncertainty.