



By Robert N. Stavins

A Century of Progress, Problems

As the first decade of the 21st century comes to a close, the problem of the commons is more important to our lives — and more central to economics — than a century ago when the first issue of the *American Economic Review* appeared, with an examination by Professor Katharine Coman of Wellesley College of “Some Unsettled Problems of Irrigation.” Since that time, 100 years of remarkable economic progress have accompanied 100 years of increasingly challenging problems.

As the United States and other economies have grown, the carrying capacity of the planet has become a greater concern, particularly for common-property and open-access resources. In an article that appears in the 100th anniversary issue of the *Review*, I focus on some important, unsettled problems of the commons.

Within the realm of natural resources, there are special challenges associated with renewable resources, which are frequently characterized by open-access. An important example is the degradation of fisheries. Critical commons problems are also associated with environmental quality, including the ultimate commons problem of the 21st century, climate change.

Small communities frequently provide modes of oversight and methods for policing their citizens, but as the scale of society has grown, commons problems have spread. In some of these

cases, no over-arching authority can offer complete control, rendering commons problems more severe.

Although the type of water allocation problems of concern to Coman have frequently been addressed by common-property regimes of collective management, less easily governed problems of open access are associated with air and water quality, hazardous waste, species extinction, stratospheric ozone, and the stability of the climate.

Economic theory — by focusing on market failures linked with incomplete systems of property rights — has made major contributions to our understanding of commons problems and the development of prudent public policies. As our understanding of the commons has become more complex, the design of economic policy instruments has become more sophisticated, enabling policymakers to address problems that are characterized by uncertainty, spatial and temporal heterogeneity, and long duration.

But commons problems have not diminished. While some have been addressed successfully, others have emerged that are more important and more difficult. Fortunately, environmental economics is well positioned to offer better understanding and better policies to address these ongoing challenges.

A century of economic growth and globalization have brought unparalleled improvements in societal well-being, but also unprecedented challenges to the carrying capacity of the planet. What would have been in 1911 inconceivable increases in income and population have come about and have greatly heightened pressures on the commons, particularly where there has been open access to it.

The stocks of a variety of renewable natural resources, including water, forests, fisheries, and numerous other species of plant and animal, have been depleted below socially efficient levels, principally because of poorly defined property rights regimes. Likewise, the

same market failures of open-access — whether characterized as externalities or public goods — have led to the degradation of air and water quality, inappropriate disposal of hazardous waste, depletion of stratospheric ozone, and the accumulation of greenhouse gases.

Over this same century, economics has gradually come to focus more and more attention on these commons problems, first with regard to natural resources, and more recently with regard to environmental quality. Economic research within academia and think tanks has improved our understanding of the causes and consequences of excessive resource depletion and environmental degradation, and thereby has helped identify sensible policy solutions.

Conventional regulatory policies, which have not accounted for economic responses, have been excessively costly, ineffective, or even counterproductive. The problems behind what Garrett Hardin characterized in 1968

as the “tragedy of the commons” might better be described as the “failure of commons regulation.” As our understanding of the commons has become more complex, the design of

economic policy instruments has become more sophisticated.

Problems of the commons have not diminished, and the lag between understanding and action can be long. While some commons problems have been addressed successfully, others continue to emerge. Some, such as the threat of global climate change, are both more important and more difficult than problems of the past. Fortunately, economics is well positioned to offer better understanding and better policies to address these ongoing challenges.

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The problem of the commons is more important than 100 years ago