

## Ecological Modernization

Ecological modernization is shorthand for two ideas: that it is possible to maintain or increase rates of economic growth *and* protect the environment; and that diseconomies and ecological harm may be diminished by policy correctives and technological fixes which design environmental criteria into economic systems. Its apparent appeal lies in a capacity to generate positive-sum solutions to problems conceived as zero-sum; move beyond remedial and regulatory environmental strategies of the 1970s; avoid structural change seen as intractably difficult; and accommodate (however uncomfortably) both radical environmental critique and neoliberal practices. In short, the term refers to the restructuring of the capitalist economy along environmentally sound lines. Nevertheless it has been criticized for perpetuating social injustices, economic unfairness and environmental harm because it remains inside the capitalist system from which stem many of the problems of modernization.

Modernization is a term and idea describing various pathways for human and social development and various changes in social and spatial relations over time. These processes involve modifications to production and consumption, as well as adjustments to industrial practices, land use, migration, settlement, transportation and social, economic and political organization. Modernization and globalization are interrelated, the latter enacted or operating at various scales. It gives effect to increased and accelerated flows of financial and other transactions, capital, resources, goods and

services, ideas, people or communications. These flows are unevenly distributed, with varying consequences, both positive and negative.

Concerns about the harmful effects of modernization and globalization have given rise to diverse environmental values. Emphasis is sometimes placed on the intrinsic or essential worth of nature or the environment. Sometimes the instrumental or practical worth of such entities for human needs and desires is stressed. On balance, however, whether environmental values exist from self-interest or selflessness, they prompt calls for nature or the environment to be better conserved and managed given the growth and globalization of modernization's damaging effects. Among such effects are poverty, malnutrition and ill-health, excessive consumption and the unfair distribution of goods and services, anthropogenic or human-induced climate change, and habitat and species loss. Such loss occurs across all habitat types at all latitudes and arises from inappropriate forms of urbanization, primary and secondary production and other human activities, and from the pollution of the environment with hazardous substances.

Sustainable development is one prominent response to such effects, gaining rapid authority in international governmental circles from the mid 1980s via work by the World Commission on Environment and Development. The WCED described sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs, stressing the crucial need to ease poverty and work within social and technological limits. The idea began to displace established, if controversial, agenda that questioned unfettered economic growth (market capitalism), and sought to promote sufficiency and a steady-state approach. Among the chief advocates of such economic reform, Herman Daly

suggested that the modern ‘evils of growthmania’ – a prevailing attitude that there is no such thing as enough – cause social injustice, economic malfunction and environmental harm.

Conversely, members of the WCED proposed that human development needs could be met *within* existing economic systems. This idea was entrenched via major United Nations’ conferences on environment and development, which gave rise to *Agenda 21* in 1992 and *Action 21* in 2002. Mol and Sonnenfeld suggest that these international events served to *codify* how changes to economic, social and environmental relations could be undertaken *inside* modernization and globalization processes.

The simultaneous rise of neoliberal forms of governance during the same period goes some way to explain the success of this codification and its use in government policy. Neoliberalism, like sustainable development, is informed by challenging questions about how to live that are linked to social, economic and ecological values and systems. Neoliberalism includes a range of philosophical and practical developments of the traditional classical liberal agenda. Classical liberals argue that no other liberties are possible without a guarantee that benefits will flow from property and freedom of contract, hence their backing of *laissez faire* capitalism and the unregulated exercise of choice in the market. For social liberals, social equality is more important than economic freedom, and although the latter remains important to them, they argue that markets must meet the basic needs of all, including their social, political and economic goals.

Neoliberalism has several variants but these hold in common the following: fiscal restraint to create surplus budgets; free trade; privatization of publicly owned goods, services and infrastructure; legal security for property rights; minimal government intervention; and deregulation of labour and financial markets, and (by extension) of laws and rules for environmental management. Like sustainable development, neoliberalism has profoundly affected general understandings of the conception of society, the place of the citizen, and the role of government. Among these new understandings is the idea of responsible autonomy; that citizens are accountable, dependable, and conscientious, act in their own (enlightened) self-interest, and do not depend on government for their welfare.

Given its apparent accord with neoliberalism and capacity to shore up 'business as usual', the rapidity with which sustainable development was mobilized in national and international systems of governance is not surprising; it has served, intentionally or otherwise, to protect vested interests and the *status quo*. While criticism of the concept has been trenchant, it remains remarkably resilient and continues to have widespread influence. Under the influence of neoliberalism, for some sustainable development represents the 'greening' of modernization, and has given rise to ecological modernization theory or EMT.

Much of the work on EMT originates from Germany, the Netherlands, and the United Kingdom, with empirical studies emanating from other parts of Europe and North America; Australians have also been instrumental in advancing significant work in the field.

Chronological, national and theoretical divergence is inherent to EMT, but there are a number of identifiable stages to it. Initially, EMT was championed by the Germany sociologists Joseph Huber and Martin Jänicke. Huber's sought to justify a shift from sufficiency to efficiency, and to explain the how technological innovations could help environmental reform, particularly in industrial production, especially if the free market were enabled and bureaucratic strictures to its rationality removed. Jänicke's early work, focused on environmental policy, also emphasized what Hajer later described as a *techno-corporatist* form of ecological modernization centred on industrial ecology, and economic and technological efficiency.

Numerous critiques of such techno-corporatist works exist, many by those who earlier had promulgated ideas about sufficiency, or by those otherwise deemed politically 'red-green', or by those seeking to refine EMT from 'inside'. Mol and Spaargaren are among the last group, and they argue that critiques of capitalism have been important in improving EMT, having generated at least three new insights. The first is that capitalism is responsive to environmental change. The second is that environmentally sound production and consumption are possible and but require diverse and targeted environmental reforms. The last stems from an assertion that all chief alternatives to the existing economic order are infeasible, and assumes the necessity of transforming free market capitalism while protecting society's sustenance base; sustainable development recast.

A second identifiable stage in EMT produced work focused more on institutional and cultural dynamics of ecological modernization and on national and comparative studies of industrial production. Hajer describes this stage as *reflexive* ecological

modernization. His work, an early example of the empirical testing of ecological modernization through policy processes, maps a shift in EMT's focus *away from* understandings of nature as a free good and sink to a public good and resource; and *towards* anticipatory techniques of environmental policy making, new roles for science in policy, new legislative and regulatory frameworks emphasizing risk and uncertainty.

Work theorizing the inherent risk of life, and of the uncertainty that typifies it, emerged at the same time as that on ecological modernization. Ulrich Beck was among the first to posit that ours is a risk society, involving a shift from modernization as the quest for wealth using industrialization to master external threats (often sourced in the environment) to modernization as a way to manage the inherent dangers of those very processes of industrialization. A consequence of this shift is that modern environmental risks are understood to be globally democratic insofar as the uncertain effects of threats such as climate change, pesticide residue or epidemic diseases do not (fully) recognize class differences, and therefore such differences are not able to explain the distribution of risk among the population.

Beck later developed these ideas as reflexive modernization, in which some commentators now position ecological modernization. He argued that modernization actually and paradoxically dissolves the foundations of modern industrial society, a crucial point which highlights the inadequacy of the central institutions of that society to deal with the ecological crisis using existing means; these institutions are, then, both flawed and incomplete. For scholars such as Hajer, who posits a new reflexive ecological modernization, the challenge now lies in finding new institutional arrangements and in correcting the bias that favours particular forms of economic and

scientific knowledge and practice that have proven destructive and incapable of addressing such tendencies. This challenge is pressing.

Elaine Stratford

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