The Greening of the World Bank

New attention to environmental aspects of bank projects is reflected in big increase in staff, changes in economic evaluations

THE WORLD BANK, long criticized by environmentalists for shortchanging the environmental aspects of the development projects it underwrites, has emerged as a leader among international development agencies in promoting environmental concerns.

The big turnaround came a year ago when its president, Barber Conable, announced a sweeping reorganization. Despite the fact that some 500 staff positions have been eliminated in the reorganization, about 40 new environmental positions have been added—representing a sevenfold increase. And, whereas in the past all projects received environmental review—such as it was—in one small office, there is now an environment division in each of the four geographic regions.

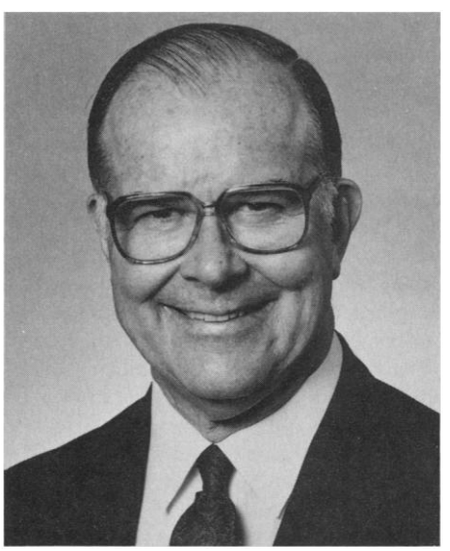
In addition, environmental concerns have been brought to the center of policy-making with the creation of a new Environment Department overseen by the vice president of policy, planning, and research. In May, the department got its first director, Kenneth Piddington, former environment commissioner for New Zealand.

Jeremy J. Warford, head of the economics and policy division of the Environment Department, is one of the chief architects of the new policy and is highly regarded by environmentalists. Warford says that although the environmental staff, including consultants, numbers about 60, there are in reality "hundreds of people beavering away" trying to figure out ways to incorporate such things as deforestation and soil erosion into their equations. "Issues are now routinely discussed at a much higher level than before," he says. "Things have really changed dramatically."

Environmentalists, naturally, are still skeptical about the changes. They want the environment units to have more staff, budgets, and authority. They want less emphasis on big capital-intensive projects and more on conservation. But at least some common language seems to be developing between economists and environmentalists. Bruce Rich of the Environmental Defense Fund, for example, faults the bank for its tendency in the past to view projects almost exclusively in the terms of economics—which is, he says, "a useful tool but obviously a very poor master." Warford, similarly, notes that while economic tools are essential for implementing policies, the policies themselves require weighing of both human and environmental factors that defy economic analysis.

Although there have been no sudden policy reversals, officials point out that the bank's increasing emphasis on sector loans (as opposed to loans for individual projects) gives it more environmental leverage. For example, a series of loans for building up Brazil's power sector also provides for the staffing of new environmental protection units; resettlement programs for indigenous peoples affected; and the establishment of protected areas.

Among the regional offices, the environment division for Latin America has probably gotten the fastest start. This is headed by



Barber Conable. *Environment and population growth among his top concerns.*

Robert Goodland, who for years was the bank's sole ecologist and only visible environmental activist.

Goodland, who has supplied much of the impetus for the latest changes, has long maintained that the most important thing required to bring development strategies more in line with environmental realities is "to revamp orthodox economic thinking."

From his corner of the bank he is doing his best to bring this about with a handpicked staff including such luminaries as maverick economist Herman Daly (see box on facing page); anthropologist Shelton Davis, a long-time activist on behalf of South American Indians; and Peruvian ecologist Marc Dourojeanni, who is credited with founding the conservation movement in Peru. "We've got a lot of heavyweights," says Goodland.

Although hell would probably have to freeze over before the bank adopted the heretical biologically based theory of economics promoted by Daly, many of the practical implications of his ideas are in tune with some of the new directions. Population growth, for example, has become a much stronger focus of concern under Conable. And the concept of "sustainability" is gaining in popularity.

Within economic policy, the bank is putting considerable effort into devising better systems of national accounting that would reflect not only depletion of nonrenewable resources but unsustainable exploitation of renewable ones. Gross national product, for example, has long been regarded as a deficient measure of productivity because it lumps together both costs and benefits of economic activity, including resource depletion and pollution abatement expenditures.

There is also work going on to revise the discount rate, which is used to evaluate the economic costs and benefits of a proposed project. High discount rates encourage projects with immediate payoffs over long-term ones—a fast-growing crop over a tree plantation, for example—and future costs as well as benefits become sharply discounted.

Warford points out that big foreign aid projects do not cause anywhere near as much environmental degradation as millions of small-scale activities. For example, in some countries there are strings of tax and other incentives that make it profitable to purchase and clear tropical forest land. "There's a hell of a lot we can do to help governments improve their understanding of these fundamental forces," says Warford.

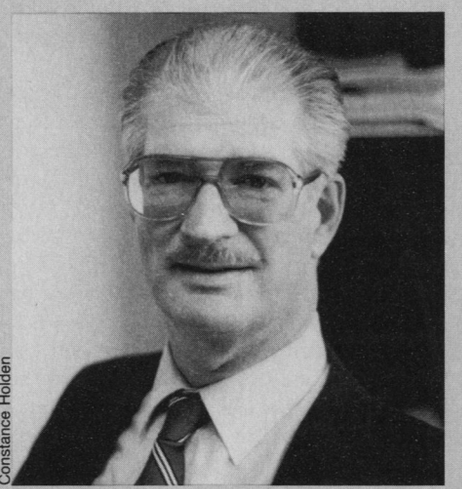
To many observers, incorporating environmental values into economic thinking at the bureaucracy-ridden World Bank is a bit like introducing *perestroika* into the Soviet Union. But there seems little reason to doubt that the bank is sincere about broadening the basis for its economic decision-making. As Conable said in his reorganization speech: "sound ecology is good economics." Warford says, "the coincidence between economic and environmental goals is getting closer and closer," if only "because things have gotten so bad."

■ CONSTANCE HOLDEN

A Heretic Amid Economic Orthodoxy

The most unorthodox addition to the World Bank's environmental manpower is economist Herman Daly, formerly professor at Louisiana State University. In his role as the resident deep thinker for the bank's Latin American region, his job, says his boss Robert Goodland, is to "look upstream to our economic dialog with the borrower." Goodland, who has sought to recruit Daly for years, says he is "the best thing that's happened to the bank since its inception."

Daly, a heretic in his profession, offers a bracing antidote to two of the central problems with orthodox economics: the focus on short-term gain, often at the expense of the long run; and the failure of traditional theory to incorporate the effects of environmental degradation and resource depletion. His theory of "steady state" economics, while drawing from modern science, is about as conservative as one can get, harking back to the steady state that was foreseen by the likes of Adam Smith. He is a proponent of a biologically based view of economics that receives a much more sympathetic hearing from biologists than from economists. In fact, the only prominent economists who share Daly's Weltanschauung are Kenneth Boulding of the University of Colorado, and Daly's mentor Nicolas Georgescu-Roegen of Vanderbilt University, author of a theory of economics based on the Second Law of Thermodynamics, or entropy.



Constance Holden

Herman Daly. *Occupies extreme end of the spectrum in limits to growth debate.*

Daly occupies the far end of the spectrum in the "limits to growth" debate (which, as Boulding observes, has now fallen out of fashion with falling oil prices). In the past he has locked horns with University of Maryland economist Julian Simon, who gained considerable prominence for his views at the other end of the spectrum, including his belief that unchecked population growth is a good idea. Simon says many economists believe Daly's argument is fundamentally flawed because it envisions constraints on energy, from which everything else flows. But since the sun's future is measurable in billions of years, now is scarcely the time to worry.

Even his friends seem to think Daly is pretty far out. Economist Allen Kneese, who does related work at Resources for the Future, calls Daly an "extreme technological pessimist." Daly does not see human ingenuity as the infinite resource that some optimists claim it to be. He believes that along with new knowledge comes new knowledge of limits.

Daly might be described as a macro-macro economist, who treats the economy as being subject not just to the laws of the marketplace but to larger laws of biology and physics. Conventional economics treats an economy as a closed system, he says, through which raw materials flow from a presumably "infinite source" to an "infinite sink." In reality, he observes, the economy is "an open subsystem of a larger, but finite ecosystem."

Whereas neoclassical economists extrapolate from the past to predict ever increasing per capita wealth and consumption, Daly is more inclined to see the past 200 years—if population growth continues at present rates—as a mere blip, "a bonanza period of consumption of stock resources and geological capital."

Daly compares neoclassical economics with Newtonian physics in that their laws apply only within certain parameters. Steady-state economics come into play, as do Einsteinian physics, "where you're close to the limits" of a system.

Daly's fundamental point seems too simple to belong in any economic theory: if the earth's physical resources are finite, civilization cannot be sustained indefinitely—no matter how ingenious and efficient technology becomes—unless growth stops and a steady state is achieved. Anyone arguing with this must first figure out how to repeal the First and Second Laws of Thermodynamics, he says. "I will admit that if the ecosystem can grow indefinitely then so can the aggregate economy. But until the diameter of the earth begins to grow at a rate equal to the rate of interest one should not take this answer too seriously."

Daly claims that economists make the mistake of equating capital with physical resources as though they were interchangeable. This, he argues, runs counter to the Second Law (entropy), which states that as substances are transformed from low to high entropy (that is, from high to low capacity for rearrangement), energy becomes lost that cannot be retrieved.

Daly is appalled by economists' obsession with "growth"—"the North Star of economic policy"—which he says is often used interchangeably with "development." But he says there is a big difference between the two. Growth means a quantitative increase in physical dimensions of the economy whereas development means improvements of various kinds, including efficiency and new materials. "Limits to growth do not imply limits to development." Yet the conventional view is that if there are no limits to development, there are no limits to growth—thus, as Daly wrote in 1987: "The implicit concept of development pursued by most of the Third World, and accepted by the World Bank, is to produce and consume on a per capita level equal to that of the U.S. or Western Europe."

He says that by failing to account for the system's "biophysical limits," conventional economics completely ignores a central task, which is to determine the optimal scale of a country's economy. In so doing, it avoids other challenges. The marketplace, he argues, is inadequate to determine whether a nonreplaceable resource should be saved; nor can it make any decisions based on the collective good, such as the optimal distribution of wealth. Such decisions require "collective action by the community."

Daly's critique of economics, in essence, contends that, at best, prevailing development practices amount to a huge gamble that by the time known resources run out, alternatives will be available. At worst, the needs of future generations are being ignored in the quest for present gain. "There is something fundamentally wrong," observes Daly, "in treating the earth as if it were a business in liquidation." ■ **C.H.**