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The Global 2000 Report

Some parts of the world will probably reach limits to growth in the next decade or two. The reasons are well known—a 3 percent annual increase in population leads to a doubling in about 24 years. Such a rate of increase in food production cannot be sustained indefinitely. The problem has been treated many times, including studies by the Club of Rome. On 24 July the federal government got into the act with a report of about 800 pages entitled *The Global 2000 Report to the President*.

On 23 May 1977 President Carter called for "a one year study of the probable changes in the world's population, natural resources and environment through the end of the century." The Council on Environmental Quality and the Department of State were designated as lead agencies and were authorized to call on other appropriate federal agencies for assistance. A reading of portions of the report produced after 3 years reveals more about the functioning of the federal government than it conveys new reliable information about the future of the world.

Some of the agencies responded quickly while others were slow. Thus, part of the material is outdated. The energy projections were made in the spring of 1978 before the Iran crisis. At that time oil prices seemed stable at about \$13 a barrel. Accordingly, the Department of Energy (DOE) made projections of energy use on the basis that, in constant dollars, the price would remain \$13 a barrel until 1990. The drastic change that occurred in 1979 goes largely unrecognized, as does the current sharp decline in U.S. consumption of oil. In 1978 the common view was that oil production would continue to increase until it peaked in about 1990. But experts are now saying that the peak probably occurred in 1978. The material also contains at least two other significant errors. The oil in place at Athabasca and other formations in the region is now estimated at 1300 to 2400 billion barrels (the older DOE figure was 895 billion barrels). That in Venezuela is placed at 700 billion to 3000 billion barrels (the DOE estimate was 200 billion barrels).

A chapter on environmental projections has a section on "The use of chemicals in the development of societies" in which one of the State Department employees provided this gem: "It was not until the end of the 19th century that the use of chemicals in society began to become widespread. . . . This development coincided with the discovery that crude oil . . . could also be used as a new source of supply of chemicals. A new scientific discipline emerged, to expand the utility of crude oil: organic chemistry." In point of fact, organic chemistry began in 1828 with Wöhler. By the 1880's the German chemical industry was a billion-dollar-a-year enterprise (in 1880 dollars). It was producing a great variety of organic chemicals, including dyestuffs from coal tar. Use of petroleum as a feedstock became important only in the 1930's.

Deforestation is very serious in parts of the world. However, the author of the chapter on forestry has made questionable statements about the Amazon Valley. He quotes an estimate that the area is being deforested at the rate of 4 percent a year, with half the forest to be removed by 2000. My informant at the Brazilian Embassy scoffed, "Has the man flown over the Amazon?" He went on to state that road-building there has almost stopped—the energy crisis has caused a shift in priorities.

The report has other deficiencies of analysis and consistency. It projects continued fast growth in gross national product in less-developed countries (LDC's) without adequate discussion of the impact of sharp increases in the price of oil. It projects virtually unchecked population growth in LDC's and corresponding increases in food production while emphasizing losses in cropland due to desertification, deforestation, water logging, urbanization, and soil erosion.

The report is correct in emphasizing that the world faces decades of difficulties and some of its sections are well done. But outdated material and inaccuracies detract from its value.—PHILIP H. ABELSON

Science

The Global 2000 Report

PHILIP H. ABELSON

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