


## Preface



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Most people acknowledge that the earth is finite. Yet the belief that continued material growth is possible and desirable remains an important influence on the majority of public and private decisions. Policy makers generally assume that growth will provide them tomorrow with the resources required to deal with today's problems. Promises that the poor will receive a share of the additional goods and services created by growth are widely substituted for any real effort to change social values or redistribute current income. Deficit spending, high interest rates, and the squandering of materials are all prevalent, and all are justified in part by the claim that more income, greater productivity, and increased resource reserves will inevitably be available in the future.

Recently, however, concern about the consequences of population growth, increased environmental pollution, and the depletion of fossil fuels has cast doubt upon the belief that continuous growth is either possible or a panacea. Yet it is difficult for individuals or institutions to recognize or respond to limits to growth, for the causes and consequences of increased production and population extend over long time periods, are numerous, and lie interlinked within a system too complex to be encompassed easily by the human mind. Before current social objectives and institutional forms can be intelligently reevaluated, new theoretical bases are required to assist in understanding the dynamics of growth in a finite world.

In July 1970 the executive committee of The Club of Rome attended a seminar presented by members of the System Dynamics Group at the Massachusetts Institute of Technology. The committee had come to determine whether the system analysis techniques developed at M.I.T. by Professor Jay W. Forrester and his associates could provide new perspectives on the interlocking complex of costs and benefits inherent in continued physical growth on a finite planet. Professor Forrester brought to The Club of Rome meeting a preliminary computer simulation model, called *World2*, that specified important relationships among population, economic output, and environmental constraints.\* At the meeting, plans were developed for a research program to test and extend Forrester's initial theories. I directed the group of scien-

\*See Jay W. Forrester, *World Dynamics* (Cambridge, Mass.: Wright-Allen Press, 1971).