


# THE LIMITS TO growth



**Donella H. Meadows**

**Dennis L. Meadows**

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**William W. Behrens III**

*A Report for THE CLUB OF ROME'S Project on the  
Predicament of Mankind*

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THE CLUB OF ROME'S PROJECT ON  
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# **THE LIMITS TO GROWTH**

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*To Dr. Aurelio Peccei, whose profound concern for humanity  
has inspired us and many others to think about the world's  
long-term problems*



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# FOREWORD

IN APRIL 1968, a group of thirty individuals from ten countries—scientists, educators, economists, humanists, industrialists, and national and international civil servants—gathered in the Accademia dei Lincei in Rome. They met at the instigation of Dr. Aurelio Peccei, an Italian industrial manager, economist, and man of vision, to discuss a subject of staggering scope—the present and future predicament of man.

## THE CLUB OF ROME

Out of this meeting grew The Club of Rome, an informal organization that has been aptly described as an “invisible college.” Its purposes are to foster understanding of the varied but interdependent components—economic, political, natural, and social—that make up the global system in which we all live; to bring that new understanding to the attention of policy-makers and the public worldwide; and in this way to promote new policy initiatives and action.

The Club of Rome remains an informal international association, with a membership that has now grown to approximately seventy persons of twenty-five nationalities. None of its members holds public office, nor does the group seek to express any single ideological, political, or national point of view. All are united, however, by their overriding conviction that the major problems facing mankind are of such complexity and are so interrelated that traditional institutions and policies are

no longer able to cope with them, nor even to come to grips with their full content.

The members of The Club of Rome have backgrounds as varied as their nationalities. Dr. Peccei, still the prime moving force within the group, is affiliated with Fiat and Olivetti and manages a consulting firm for economic and engineering development, Italconsult, one of the largest of its kind in Europe. Other leaders of The Club of Rome include: Hugo Thiemann, head of the Battelle Institute in Geneva; Alexander King, scientific director of the Organization for Economic Cooperation and Development; Saburo Okita, head of the Japan Economic Research Center in Tokyo; Eduard Pestel of the Technical University of Hannover, Germany; and Carroll Wilson of the Massachusetts Institute of Technology. Although membership in The Club of Rome is limited, and will not exceed one hundred, it is being expanded to include representatives of an ever greater variety of cultures, nationalities, and value systems.

### THE PROJECT ON THE PREDICAMENT OF MANKIND

A series of early meetings of The Club of Rome culminated in the decision to initiate a remarkably ambitious undertaking—the Project on the Predicament of Mankind.

The intent of the project is to examine the complex of problems troubling men of all nations: poverty in the midst of plenty; degradation of the environment; loss of faith in institutions; uncontrolled urban spread; insecurity of employment; alienation of youth; rejection of traditional values; and inflation and other monetary and economic disruptions. These seemingly divergent parts of the “world problematique,” as The Club of Rome calls it, have three characteristics in com-

mon: they occur to some degree in all societies; they contain technical, social, economic, and political elements; and, most important of all, they interact.

It is the predicament of mankind that man can perceive the problematique, yet, despite his considerable knowledge and skills, he does not understand the origins, significance, and interrelationships of its many components and thus is unable to devise effective responses. This failure occurs in large part because we continue to examine single items in the problematique without understanding that the whole is more than the sum of its parts, that change in one element means change in the others.

Phase One of the Project on the Predicament of Mankind took definite shape at meetings held in the summer of 1970 in Bern, Switzerland, and Cambridge, Massachusetts. At a two-week conference in Cambridge, Professor Jay Forrester of the Massachusetts Institute of Technology (MIT) presented a global model that permitted clear identification of many specific components of the problematique and suggested a technique for analyzing the behavior and relationships of the most important of those components. This presentation led to initiation of Phase One at MIT, where the pioneering work of Professor Forrester and others in the field of System Dynamics had created a body of expertise uniquely suited to the research demands.

The Phase One study was conducted by an international team, under the direction of Professor Dennis Meadows, with financial support from the Volkswagen Foundation. The team examined the five basic factors that determine, and therefore, ultimately limit, growth on this planet—population, agricultural production, natural resources, industrial production,

and pollution. The research has now been completed. This book is the first account of the findings published for general readership.

A GLOBAL CHALLENGE

It is with genuine pride and pleasure that Potomac Associates joins with The Club of Rome and the MIT research team in the publication of *The Limits to Growth*.

We, like The Club of Rome, are a young organization, and we believe the Club's goals are very close to our own. Our purpose is to bring new ideas, new analyses, and new approaches to persistent problems—both national and international—to the attention of all those who care about and help determine the quality and direction of our life. We are delighted therefore to be able to make this bold and impressive work available through our book program.

We hope that *The Limits to Growth* will command critical attention and spark debate in all societies. We hope that it will encourage each reader to think through the consequences of continuing to equate growth with progress. And we hope that it will lead thoughtful men and women in all fields of endeavor to consider the need for concerted action now if we are to preserve the habitability of this planet for ourselves and our children.

William Watts, *President*

POTOMAC ASSOCIATES

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