

# Limits to Growth: The 30-Year Update

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## When, why, to whom?

*Limits to Growth: The 30-Year Update* was written in 2004, and is the second update to the version published in 1972. *Limits to Growth* (1972) was the product of a project commissioned by The Club of Rome, international group of businessmen, statesmen and scientists, and the project was conducted in Systems Dynamics Group of the Sloan School of Management, Massachusetts Institute of Technology (MIT). The 2004 version of the book was written to all humans to raise awareness that humanity is already in a state of overshoot.

## Main theory

The main idea of the book is that the Earth and its resources are limited, but our commitment to growth is currently boundless. Population and economic growth have feedback loops that make the growth exponential. World3 computer model provides the main theoretical framework, grounded in systems thinking, and shows how the dynamics of resource depletion and pollution will lead to disasters. Only deep system-level reforms of technologies, markets, culture and institutions, can rectify the situation.

## Most important concepts

- Human impact on **Earth's sources and sinks** are leading to overshoot.
- **Exponential growth** of population and economy
- Natural and man-made systems function through **feedback loops** with information distortions and delays.
- Costs of the adjustment mechanisms tend to **rise as limits are approached**, so reforms must happen as soon as possible.
- Active decisions are needed to achieve the **next stage of industrial evolution**.

## Strengths

Emphasizes that the reasons behind overshoot are dynamic

- Forces and processes, rather than static root causes

Systems-level analysis best approach highly complex and interrelated problems

## Weaknesses

Too simplified underlying assumptions

- Ideal social conditions
- Equal distribution of consequences

Systems-level analysis does not allow for identification of guilty parties or solutions

Limited in time, the model does not work once collapse has started

**Improvements:** include political forces as a part of the model, develop the model to cover also the time-frame after a collapse happens

## How the text works

*Limits to Growth* explains thoroughly and with enough detail the bases for the World3 model, and also clearly states its shortcomings, uncertainties, and assumptions. The authors make it clear what the point of the model is: not to predict the future, but rather model how humanity and the world would behave in certain circumstances. Their core concepts are well-argued and backed up by their World3 model runs, however since they continuously disclaim all the shortcomings of the model, it can make the reader question the validity of the authors' assumptions and decisions in the model.

Reading the book in 2020 does not give any hope for the future.

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