

Are We Heading in the Right Direction for a Sustainable World?

By George P. Nassos

Now that the leader of our country has been determined for the next four years, here is a message for the administration as well as to our fellow Americans.

From time to time, I am sure you read articles that predict the future in terms of population, carbon emissions, fossil fuel depletion, food supply, water availability, etc. It is easy to make predictions in the future when you are referring to, say, 2030 or 2050. Most people will forget by then what anyone said. But what if we go back 40 years and remember what was said about today?

In 1972, a team of MIT experts wrote a report titled *The Limits to Growth* and presented it to scientists, journalists and others, and shortly published it as a book. It was the first time that computer modeling was used to answer the question as to whether the population would outgrow the planet and the resources available. The purpose of the study was to show the interrelationship between global growth factors like population, resources, persistent pollution, food production and industrial activity. Based on this study, they predicted that if human beings continued to consume more than the environment was capable of providing, there would be an economic collapse and a sharp decline in population by 2030. That is only 18 years from now.

Although the report seemed to focus on a very negative scenario, they looked at various changes that could avert a collapse. One positive variable was looking at technological changes that increased agricultural productivity, reduced pollution, and provide an increase in the available supply of natural resources. Technological advancements would have a positive impact, but this alone could not avert a collapse. Social and cultural changes would also be necessary to reduce consumption and stabilize population growth. Since it has been forty years since the report, data have been collected and compared with the predictions. To mark the 40th anniversary of the report, Dennis Meadows (former Dartmouth professor), Jay Forrester (MIT professor), and other experts gathered to discuss the challenges ahead to into a sustainable future. Their concern is a result of the graph below which shows that the world is following the predictions of the study.

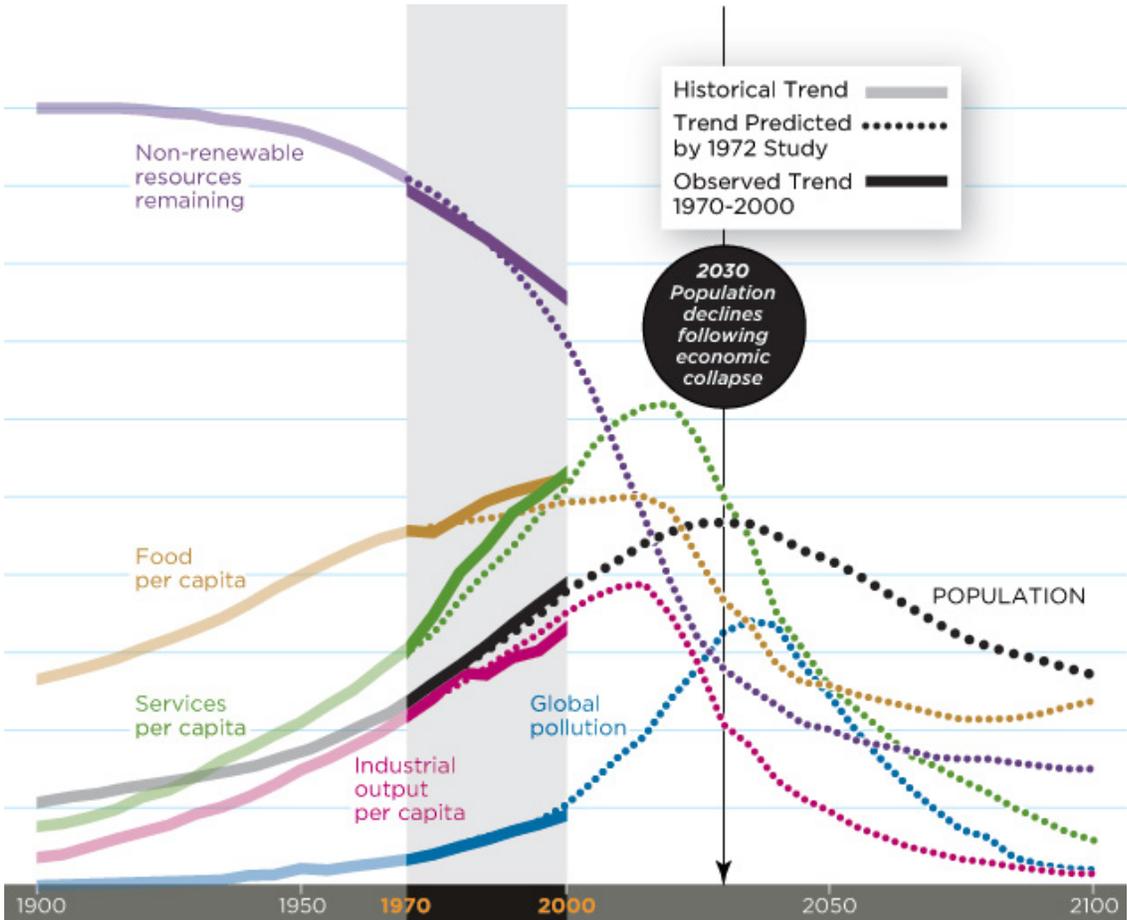
You can see that with 30 years of data, pollution, industrial output, population, and services per capita are all increasing as expected. At the same time, the remaining non-renewable resources are decreasing a little slower (good), but food per capita is increasing a little faster than expected (bad).

The study was also concerned with sustainable development which was defined by the notion that the developed nations can keep what they have while the poor people try to catch up. Or perhaps, keep on doing what we are all doing but through technological advances we can expect less pollution and use fewer resources. Unfortunately, we are not succeeding with this expectation. We are currently consuming 50% more than what the earth is able to provide, and we don't have much time to change our course.

If we don't change our course, we must become more resilient and adapt to these changes. We must learn to adapt to the loss of cheap energy or a permanent change to the climate. We must learn how to live with less water. Just as we are depleting the fossil fuels that have been stored in

the earth's crust for many years, we are rapidly depleting the groundwater that has also been stored for many years.

Although this may appear to be a pessimistic view of the future, we will be fine. Between government policies, corporate integration of sustainability, and individual changes in our lifestyle, we should be able to overcome this adversity and achieve a sustainable world. But we all need to make this commitment.



Graph by Linda Eckstein