

## Improvement of the World Environment: The Skeptical Environmentalist

### The Environmentalist Litany

During the past generation, a large environmentalist movement has emerged committed to showing that the world is a bad place and is growing progressively worse. This movement is headed by individuals such as Paul Ehrlich and David Pimental, and by organisations such as the World Wide Fund for Nature, Greenpeace, Worldwatch, and many others.

Bjørn Lomborg is an Associate Professor of Statistics in the Department of Political Science at the University of Aarhus in Denmark. He is vegetarian who rides a bicycle and approves of big taxes in Denmark on cars and petrol. He is also an environmentalist and is concerned about world poverty. In 1997, he visited California. While browsing in a bookshop there, he came across a profile in Wired magazine of the anti-environmentalist economist Julian Simons, who claimed that there was no problem with resource depletion. Back in Denmark, he set his students the project of disproving the statistics given by Professor Simons. No such disproof could be found. On the basis of this, Professor Lomborg began an intensive research of the environmentalist claims. He found these in many respects lacking in scientific rigour. They are based on misunderstandings of the material being examined, on selective readings of the material, on exaggerations, and often on unsupported assertion. Using material published by governments and international organisations, Lomborg claimed in a book that was internationally controversial and is now available in French under the title: *l'Ecologique Sceptique* that the environmentalists cite it misleadingly.

“Lomborg accepts that there are serious problems of hunger and general poverty, and that there are environmental problems, but by almost every measurable standard, he claims, the world is becoming a better place.”

### The Litany Examined

Professor Lomborg does not believe that the world at present is a wonderful place. He accepts that there are serious problems of hunger and general poverty, and that there are environmental problems. He takes issue with the mainstream environ-

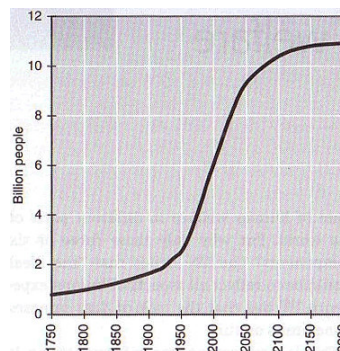
mentalist movement, however, in its claim that the situation is growing worse. By almost every measurable standard, he claims, the world is becoming a better place. He takes issue with the Litany as follows:

### That world population is increasing exponentially

In 1750, world population was about one billion. By 1999, it had reached six billion. The main growth began around 1950.

This growth of population had led to a revival of the old Malthusian claim that population increases exponentially while the capacity to support it grown only arithmetically. On this reasoning, population will continue to grow until average living standards have fallen to bare subsistence level, and will then be checked by mass starvation and by pandemic diseases. Such was the message given by Paul Erlich in his 1968 book, *The Population Bomb*.

The truth is, however, that this population growth was not the result of increasing birth rates, but of a falling death rate. Better sanitation and access to medical services and higher living standards meant that fewer people were dying. As happened earlier in Europe and the United States, a falling death rate has been followed by a falling birth rate. The world population growth peaked in 1960 at just



**Figure 1**  
World population 1750-2200, the UN's medium variant forecast from 2000.

Source: UNPD 2001b:27; 1998b:37, 1998c.

over 2 per cent a year. It has now fallen to 1.26 per cent, and is expected to fall to 0.46 per cent by 2050. After a long slowing, population is expected to stabilise at around 11 billion by the year 2200. It has not grown, is not growing, and will not grow exponentially.

At the moment, there is no obvious problem of overpopulation. The problem is not the number of people per unit of land. It is one of economic development.

### **That the capacity of our planet to feed ever-larger numbers of people is at its limit**

In 1968, Paul Ehrlich predicted that hundreds of millions of people would starve to death in the 1970s. In fact, world agricultural production has more than doubled since 1961, and has more than tripled in the developing world. According to the United Nations, production has increased per person by 23 per cent since 1961. Output of meat per person has grown from 17.2 kg per person in 1950 to 38.4 kg per person in 2000.

“The number of people starving fell from 45 per cent in 1949 to 35 per cent in 1970, to 18 per cent by 2000, and is expected to fall to 12 per cent in 2010.”

Between 1957 and 2001, average food prices fell by two thirds measured in constant dollars.

This increase in supply per person has been fairly evenly spread. The United Nations defines as starving any person who does not eat enough to perform light physical activity. On this measurement, the number of people starving fell from 45 per cent in 1949 to 35 per cent in 1970, to 18 per cent by 2000, and is expected to fall to 12 per cent in 2010.

The reason for this increase in food production was the "green revolution". This consisted of

- Higher yield crops
- Irrigation and other water schemes
- Fertilisers and pesticide
- Improved farming management skills

According to the United Nations, the rise in food production shows no signs of coming to an end. Long-term food prices have been in decline since 1800, and will continue to decline.

The food problem, he says, is well on the way to being solved.

### **That levels of human welfare are declining or about to decline**

In 1906, life expectancy in China was about 25. The average in the developing world was below 30 years. By 1950, it had risen to 41. By 1998, it had

risen to 65. This was as long as in Britain and America in the late 1940s. These improvements have been due to a large fall in infant mortality, and to improved sanitation and access to medical treatment. Many diseases, such as small pox and bubonic plague, have now been all but eradicated. Others such as cholera and malaria and tuberculosis are coming under control.

Sub-Saharan Africa has lagged behind in these improvements. But this has been due to misgovernment and war, not to any systemic failings in the economic mechanism.

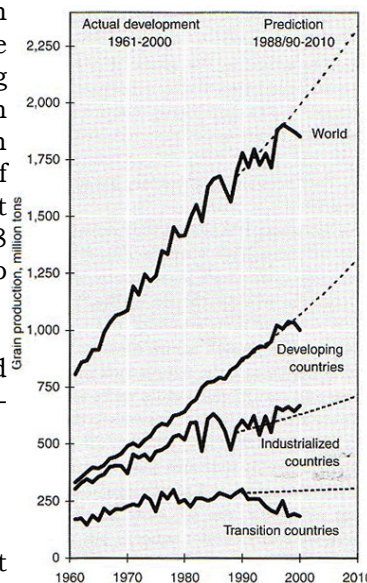
### **That the world is running out of energy and other natural resources**

The 1972 famous book *Limits to Growth* published by the Club de Rome argued that the world only had so much oil, and that demand for this was increasing with economic growth. The conclusion was that oil would run out by 1982. In fact, the world has not run out. The long-term price of oil has remained fairly constant since 1880, despite

immense increases in demand. The 400 per cent increase in oil prices in 1973 was due to political factors, not to any physical shortage. Such was also the case in 1980, and in the more recent increases.

The flaw in the projection was to take current estimates of known reserves as statements of fixed quantity. In fact, these estimates are only of what is known and of what can be economically extracted with current technology. Since the 1970s, much more oil has been discovered. At the same time, extraction technology has greatly improved. No one knows how much oil is left, but it seems there is easily enough, even given current levels of economic growth, to last beyond the middle of this century.

Even when the oil does begin to run out, this will not bring a sudden end to our energy-based civilisation. There will never be a day when there is plenty of oil, followed by a day when there is not. Instead, there will be a slow increase in extraction costs, attended by an increase in price. Our economies are based on oil simply because oil is presently cheap and abundant. Let this fact change, and there will be a diversification into other energy sources. Already, the cost of generating electricity from the sun and the wind has fallen by 94-98 per cent since 1980.



**Figure 2** Grain production, prediction from FAO 1989-2010, and actual 1961-2000. Source: Alexandratos 1997, 1998, FAO 2001

Also, we are more efficient in our use of oil. Less and less oil is used to produce each unit of output. Put another way, almost twice the amount of wealth was produced in 1992 per unit of energy than in 1971. In Denmark, used less energy in 1989 than in 1970, despite a 48 per cent increase in GDP.

There is no prospect of our running out of oil or any other energy source. It is probable that the demand for oil will fall away long before the supply begins to come to an end.

The same is true for all other finite natural resources. Ever since the beginning of our industrial civilisation, the prices of industrial goods have been falling.

Once estimate is that prices have fallen by 80 per cent in real terms since 1845. It is true of water that is presently near the head of concerns about future shortages. However, according to the United Nations Comprehensive Assessment of the Freshwater Resources of the World, published in 1997, shortages of water occur "largely as a result of poor water allocation, wasteful use of the resource, and lack of adequate management action". These are problems to be solved by better political and economic mechanisms, not problems of actual shortage.

### **That pollution and other environmental degradations are increasing**

The problem of pollution has diminished and continues to diminish. Using statistics of coal use, it is possible to measure air pollution in London ever since 1585. This peaked at the end of the 19th century, and then went into decline, undergoing a very rapid decline from about 1950. Today, London's air is cleaner than at any time since the end of the middle ages. The same is true of other big cities in the developed world. The cause is reduced consumption of coal for home heating, and better treatment of commercial waste.

Rivers are also cleaner in the developed world. There has been an increase in pollution in the developing world. But this is because people there are making the same trade off between cleanliness and prosperity as was made in the developed world during the first industrial revolutions. As with

demographic trends, we can expect a fall in pollution during the present century.

### **That technological progress is damaging human welfare**

Starting in 1962 with Rachel Carson's book *Silent Spring*, fears have grown about the levels of pesticide and chemical fertilisers in food. Throughout the 1990s, opinion polls in the United States found that the key environmental concerns were over toxic waste and air and water pollution due to these farming technologies.

More recently, these fears have been reinforced by the use of synthetic hormones and the genetic modification of crops.

In support of these fears are the statistics on cancer. In 1900, 64 of every 100,000 deaths in the United States were from cancer. By 2000, this had risen to 136.

However, cancer is overwhelmingly a disease of age. As people have lived longer, so they have died more often from cancer, rather than from diseases such as tuberculosis and pneumonia. Once the cancer statistics are adjusted for age, this more than doubling fell to a one-percentage point increase - and this was due largely to a rise in lung cancer.

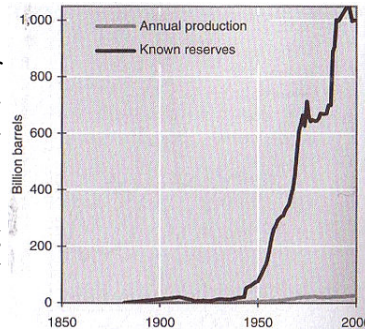
In fact, the danger from agricultural chemicals has been greatly overstated. One estimate of the excess annual cancer mortality rate in the United States is about 20 out of 560,000. For comparison, about 300 Americans die every year in their bathtubs.

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Against this risk, the cost of phasing out agricultural chemicals in Denmark would be about 0.8 per cent of GNP, or about \$1 billion per year. A rough translation to the US is about \$23-74 billion per year: To this must be added the increases in cancer and other diseases brought about by a loss in agricultural production. Fewer chemicals means less fruit and fewer vegetables and higher prices.

### **That technological progress is damaging the rest of the natural world**

It has entered the discourse of environmentalism that 40,000 species a year become extinct because of human activity. Professor Lomborg takes issue with this statistic based on an unverified assumption



**Figure 3** The world's oil reserves and world oil production, 1920-2000. Source: Simon et al. 1994, EIA 1997b:Table 11.3, 11.5, 1999c:271, 2000d:277, 2000a:109, 2000c:136, 2001a:137, 2001b:113. Total reserves until 1944 are only American, since 1944 for the entire world.



tion. He does not deny that species are becoming extinct at an unnaturally high rate, but he cites a far from conservative calculation that this rate may reach about 0.7 per cent in 50 years, not the 25 to 75 per cent at all species in 50 years implied by Professor Myers, and calls it "not a catastrophe but a problem - one of many that mankind still needs to solve".

As for soil erosion, the claims about this turn out to be based on one study of a 0.11 hectare sloping plot of Belgian farmland. It is hard to conceive that the claims were advanced entirely seriously. (Boardman, 1998)

### **That economic growth is damaging the capacity of our planet to support all life.**

The main present fear is of global warming. It has become a received wisdom that human activity is bringing about an unsustainable increase in world temperatures. It is endorsed by the respected Intergovernmental Panel on Climate Change (IPCC), organisation affiliated to the UN.

*Professor Lomborg does believe that global warming is taking place. However, he says: "The cure is worse than the ailment. Let's not focus on phantom problems at the expense of real problems."*

Contrary to the received wisdom on climate change, however, the science and economics of global warming are far from settled. Few today remember the widespread fears during the 1960s and 1970s that the world was on the brink of a new ice age. Records show that global temperatures have increased by between 0.4 and 0.8 degrees Celsius since 1856, though even these figures are subject to dispute. Even if the data is taken at face value, all of the 20th century's increases in temperatures occurred between 1910 and 1945 and since 1975. While the most recent warming phase coincides with a significant increase in man-made emission of greenhouse gases, the temperature increase in the first half of last century doesn't, suggesting that much climate change may not be man-made after all. Global temperatures have fluctuated dramatically over the past 1m years from purely natural causes, with changes in the earth's orbit leading to a series of eight glacial and interglacial cycles. There was a period of significant global warming between the 8th and 12th century, when temperatures surged by two to three degrees, allowing vineyards to flourish in England and the Vikings to colonise Newfoundland.

Many scientists believe that climate change is at least partly explained by changes in solar activity, as measured by the number of spots on the sun's surface, suggesting that most of the changes in recent decades may be attributable to natural, rather than human, causes.

Professor Lomborg does believe that global warming is taking place. However, he says: "The cure is worse than the ailment. Let's not focus on phantom problems at the expense of real problems." All the Kyoto treaty on global warming would achieve is to postpone warming for six years, he argues. For a bill of \$ 4 trillion, a 2°C rise in temperature would arrive in 2106 instead of 2100.

### **Conclusion**

To repeat, Professor Lomborg does not believe that all is well with the environment. But there have been improvements, and much of the evidence about crisis is not well established. He concludes:

"The key idea is that we ought not to let the environmental organisations, business lobbyists of the media be alone in presenting truths and priorities. Rather, we should strive for a careful democratic check on the environmental debate, by knowing the real state of the world - having knowledge of the most important facts and connections in the essential areas of our world. It is my hope that this book will contribute to such an understanding."

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Printed in Belgium

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