

Rencontres Économiques d'Aix-en-Provence

Session 13 "How to manage a crowded and exhausted world?"

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The global population is close to 7.5 billion. Even if its growth has been slowing down since the late 1980s, the increase represents over 400 million more people every five years, i.e. the equivalent of the current population of South America. Among those who venture to make forecasts, the United Nations has announced that between now and 2040, the population will be between 8.5 and nearly 10 billion. And yet, even in the high variants of their scenarios, the UN demographers assume that growth will continue to slow down, which is no longer a given since China ended its single child policy. There are over 360 million Chinese people with the potential to have children, and this could very well skew predictions.

Will we survive in a world of 10 billion people? Can we expect depleted resources and increased poverty? Already in 1968, in a book unambiguously entitled *The Population Bomb*, Paul Ehrlich wrote, "Demographers predict that by 2000, seven billion people will have to share the limited resources of our planet, while no scientific ingenuity can double agricultural production in such a short time." Recently, the economist David Lam impishly remarked that we seem to have survived the population bomb despite everything...

2.5 billion more people by 2040 is an increase equivalent to the world population rise over the past thirty years. To grasp the future, it could thus be useful to look back on the experience gained in these last three decades, during which the world's population increased by 50%, by examining changes in global resources.

In the last thirty years, according to the FAO, agricultural output has virtually doubled, and production per head has increased by nearly 30%. In Africa too, despite its far higher demographic growth, production per head has increased by nearly 20%. Ehrlich's prediction seems to have been given the lie. Agricultural productivity has thus largely offset the rise in population.

Population growth leads to a more intensive exploitation of exhaustible resources, which should logically lead to higher prices. But in the last thirty years, despite short-lived price hikes, the price of raw materials has not risen. For example, adjusted to inflation, oil prices are close to the levels of the mid-1980s. The remarkable increase in demand, under the combined effect of demography and higher standards of living, has not led to a proportional increase in prices, which would have prohibited access to the poorer sections of the population.

Nor, in thirty years, has the "population bomb" led to increased poverty; in fact, quite the reverse. According to the World Bank, over 40% of the global population used to live on less than \$1.9 a day; thirty years on, this extreme poverty affects 10% of the global population.

But the removal of disaster scenarios linked with population growth should not encourage blind optimism. Among the numerous people and institutions sounding the alarm bell, Stan Becker reminds us of the huge amount of damage the human population has caused to its environment. In particular, the depletion of water tables, the overuse of river water, deforestation and the mass extinction of species are causing enormous harm to the planet's ecosystem.

Driven by its economic appetite alone, humankind forgets that it also needs to preserve its common resources. In the tragedy he described nearly fifty years ago, Garrett Hardin was alarmed at the consequences of an increasing population, and called for a policy to limit the birth rate. We now know that the only method that really works is education. Education is all well and good – but it needs to go hand in hand with a sense of awareness and responsibility towards future generations.

Becker, S. (2013). Has the "World" Really Survived the Population Bomb? *Demography* 50, 2173-2181.

Hardin, G (1968). The Tragedy of the Commons. *Science* 162, 1243-1248

Lam, D. (2011). How the world survived the population bomb: Lessons from 50 years of extraordinary demographic history. *Demography* 48, 1231-1262.