Population Explosion, Energy and Environment: A Personal View

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The Challenge

The latest industrial buzzword is «lean production» – the goal, ever faster and ever more goods. Is technology becoming an end in itself? Is there any hope for us? After the fall of socialism and the end of the Cold War, can we not think of anything better than provoking a trade war for the market in non-durable consumer goods? Does nobody want to see that we are ruining our Earth with this madness, and are leaving the Third World ever further behind – three-quarters of humanity, whose only capital is its cheap labour?

The population explosion in the Third World, with its human misery and environmental destruction, is the greatest threat to every single inhabitant of this planet, and controlling this explosion in a humane way is the greatest challenge the history of mankind has ever faced. When we are confronted with the emaciated children of Africa and Asia, it is pure cynicism to think about lean production of more things instead of how we might, through a global division of labour, be able to help their parents to find work and human dignity. We might then be able to prevent them from one day using force to take what we deny them. The few asylumseekers that are already causing us so many problems today, although they still first knock at our door and do not yet force their way in, are like the first bubbles escaping from a pressure cooker that will soon explode.

Energy and Population Growth

The man who is poor and has nothing to share is not bothered by children, as they are his old-age pension. In countries with the lowest per capita consumption of energy, we also find the lowest gross national product (GNP) together with the highest rate of population growth.

Accordingly, their population growth will only slow down once they are able to consume much more energy – as was the case here. This is a vicious circle, as the poor can only help themselves at the expense of the natural environment by cutting down their own forests. Coal, oil and other fossil fuels are unaffordably expensive for the Third World and, where they are available, their harmful emissions are released untreated into the environment. Environmental protection is a rich man's luxury.

The answer is not the export of nuclear power stations. They would scarcely provide any employment for these countries, and security considerations would lead them into a new colonial dependence and ultimately threaten world peace.

By contrast, even with today's level of knowledge and technology, it can be confidently asserted that the use of renewable energy sources, of solar energy, could fulfil the technical and economic requirements of a future global energy sector.

In the Third World, there are sufficient arid, unused areas and three times the amount of solar irradiation than can be found in the industrialized Northern nations.

With just a fraction of the subsidies and resources that have been lavished, for example, on the development of nuclear energy or manned space exploration, it has been possible to achieve a very high level of development in the exploitation of solar energy. However, developments have never got any further than small prototypes. Most of these were built in the 1970s and have since been utterly ignored. And now, the shift away from renewable energy seems final. Significant development of solar technology rests with the governments of the industrialized nations. But they ignore the subject, lacking even the courage to state their non-policy so publicly.

A Strategy

There is an urgent need for at least one sufficiently sized demonstration plant for each of the three or four major solar strategies. Some of these, such as the atmospheric power tower (or solar chimney), are ideally suited for countries of the Third World because their technology permits them being autonomously built and run using local labour. If each of these plants cost approximately $250 million, then a total of $1 billion would be needed for such a project, which is negligible in view of the undoubted benefits. The fact that nothing is being done cannot have anything to do with money.

What, then, is the reason? Does a doubling of the world's population in 35 years and its effects on the environment and the climate so surpass our powers of imagination that we stick our heads in the sand? Is there a lack of understanding of the interrelationship between the population explosion, living standards, energy and the environment, however simple and obvious it may be, or do people not take the time to consider seriously the level of development of solar technology and the opportunities it offers? Is parliamentary democracy just as spent a force as socialism, incapable (because on its limited legislative periods) of tackling long-term problems and only suited to producing politicians, not statesmen with imagination, courage and a far-sighted, global sense of responsibility?

Engineers as Activists

It is our duty as engineers to emerge from our secluded world and bring our expert knowledge to bear in those spheres where the political powers govern in a vacuum and are bossed around by irresponsible pressure groups.

There can be no more excuses, such as the stereotyped reference to the «great» efforts being made by governments to reduce CO_2 emissions or the UNCED Conference in Rio with its pitiful «result».

The misery is here and now and its consequences are irreversible. Facing up to this challenge and demanding this effort of society is an urgent political task.