

”Responsible stewardship for planet Earth – is it too late?” – comments by Anders Wijkman, Member of the European Parliament, at the seminar ”Man, Nature and Religion” at Sigtunastiftelsen on October 28th, 2007:

1. I am very honoured to be invited. Both Professor Wilson and Arch Bishop Hammar belong to the small group of personalities for whom I have profound respect! I have read many of Professor Wilson’s books and am very much impressed. Your book ”Future of Life” should be read by everybody. The way you explain the importance of biodiversity is truly wonderful!

2. The main reason behind the writing of his latest book ”The Creation” is, as I understand it, the strong feeling by Professor Wilson that time is running out. Growing economies and growing populations – and the way production and consumption are organised – exert a pressure on ecosystems and the atmosphere that constitute a serious threat both to biodiversity and human society.

3. There has been a tendency in the recent past to downplay the role of population. Numerous economists have told us that population is no problem. ”The more brains, the better” as Julian Simon put it. To people like him I say: go to India, to Bangladesh, to Kenya or to the coastal areas in China. The pressure on land and water resources is overwhelming.

The relationship between human beings and demand for energy is of particular relevance. Nobel laureate Carlo Rubbia recently made the comment that while population has increased from 1 billion people in 1830 to more than 6 billion people today – i.e. 6 times - demand for energy has in the same period of time increased by 36 times – i.e. the square of the increase of population.

Both in Muslim countries and in countries where the catholic church has a strong standing, the resistance to family planning constitute a major problem. It has been sad to experience the unholy alliance in relation to this particular issue at international conferences between the Bush administration and countries like Sudan, Iran etc. No effort has been spared to try to prevent family planning services.

4. The latest scientific reports – on climate change as well as on ecosystems degradation – demonstrate the urgency of the situation. GHG emissions will have to start to decline before 2015 for us to have a chance to avoid ”dangerous climate change”. Even if all emissions were stopped tomorrow, warming would continue. The negative consequences are already felt all over the world.

Tragically, the very people who did not contribute to GHG, i.e. people in low-income countries, will be worst hit. More extreme weather events – storms, floods and pro-longed droughts – as well as sea-level rise threaten the livelihoods of hundreds of million of people. Without doubt, climate change is a serious threat to development and to poverty reduction.

Although more than 15 years have passed since the climate convention was signed in Rio, no real progress has been made in curbing emissions. Emissions are increasing more rapidly today than ever before. To a great extent this is caused by the rapidly growing economies in countries like China and India. China increased its emissions from 3 billion tons of CO₂ in the year 2000 to 6,2 billion tons in 2006.

We should, however, not forget that emissions continue to increase in most industrial countries as well. The US has increased CO₂ with more than 20 % since 1990, Canada

with 25% and Japan by more than 12%. Also in Europe most countries experience increasing emissions. Sweden is, in fact, one of the few member-states of the EU where emissions have gone down.

Although climate change is receiving a lot of attention – more recently with the Nobel Prize being bestowed on Al Gore and the IPCC – there is simply too many words and too little action. And when people like George W Bush criticizes China for its emissions we should not forget that per capita emissions in the US are 6-7 times larger than in China. Moreover, through outsourcing, more and more of the consumer products we buy come from China and it is the Chinese that have to account for the emissions, not us.

5. One aspect of climate change is particularly troubling: The Climate System is not linear, meaning that we have to be ready for unpleasant surprises. Science talks about "tipping points", thresholds beyond which abrupt change may happen.

One example is the possible melting of the tundra in Sibiria or Alaska. If that were to happen large volumes of methane – a very potent GHG – would be released and climate change would accelerate. Another possible tipping point could be the disintegration of the glaciers in either Greenland or in West Antarctica, meaning that parts of the glaciers would break up and slide into the ocean. The result would be a dramatic increase in the sea-level. There are other possible tipping points, but time does not permit to dwell on them.

6. The ecosystem crisis is less understood than climate change. But only two years ago a very important study – the Millenium Ecosystem Assessment – was presented. More than thirteen hundred scientists from all over the world had been studying the health of ecosystems. The sombre message was that 2/3 of the most important ecosystems are overutilized and/or being degraded. Everything from fisheries and tropical forests to fresh water resources.

This development is unsustainable. It is like with money in the bank. One can withdraw more than the interest on capital for a few years, but not indefinitely. Sooner or later the capital is gone. It is the same with Natural Capital. In a world where population grows by ten Sweden every year, the rapid degradation of ecosystems and biodiversity is extremely serious.

How will we be able to grow the necessary food in the future? How to deal with water scarcity? The questions are many.

Moreover, the degradation of ecosystems is being aggravated by climate change.

Thousands – if not millions – of species are threatened because of global warming. They simply don't have the time or opportunity neither to adjust nor to migrate.

7. Much have be said about the main causes behind the predicament we are in. Arrogance. Greed. Ignorance. Flawed perceptions. The list is long. The limited response so far by the leading religions and churches is a problem. No doubt. But the same can of course be said about most other organisations, not least political parties.

Almost all the parties in the western world were established during the peak of industrialisation. The political ideas that emerged were either inspired by liberal economists, like Adam Smith, or by socialists like Karl Marx. In Sweden we developed something in- between, the so-called mixed economy. But common for all these different political systems was the strong belief in conventional growth and that it is always positive, regardless of its quality and content. Where policies differed was primarily with regard to how the benefits of growth should be distributed.

The world of Adam Smith – and of Karl Marx as well – was very different from the one we have now. The population was less than a billion people. Man's activities were small compared to Nature. Adam Smith observed the world from a horse-back and had no knowledge about physics, thermo-dynamics etc.

The economic model Smith developed – a model that is still with us today – was totally separated from the natural world. Possible impacts on Nature by man's activities were labelled "externalities" and had to be addressed, if at all, by political decisions. The model worked quite well as long as the externalities in the form of pollution and ecosystem degradation were limited. Today, however, the model is far from adequate.

The externalities are becoming increasingly serious. Furthermore, policy-making at international level – the level at which most of the problems of pollution overload and ecosystems degradation have to be addressed – leaves a lot to be desired. The institutions we have – the UN, IMF and the World Bank – were all created in the 1940's and have at its core the principle of national sovereignty.

This may have been natural after the two world wars. But the main threat today is not warfare between nation states, rather irreparable damage to the global commons. We live in the Planetary age, where the protection of the commons - where the protection of the whole - is the most important challenge! The institutions we have today are totally inadequate when it comes to addressing these problems.

8. The concept of "ecological footprint" has been launched to try to describe the skewed relationship between man and nature. The footprint is a resource management tool, measuring how much land and water area a human population requires to produce the resources it consumes and to absorb its wastes under prevailing technology. The concept is not perfect but provides a good illustration of the demands on the natural resources base exerted by our present lifestyles.

Europe had 12% of the world population in 1960 and needed at that time around 10% of the productive area of planet Earth. One could say that at the time we lived in reasonable balance with the environment. Today we are only 7% of the world population but our footprint takes up 20% of the planet. If we make the same calculation for the US we would get more or less the same development.

This means that the US and the EU together require between 40 and 50 % of all the productive area on the planet. The implication is that very little is left for the rest of the world. This is a fundamental problem of equity, not least in the negotiations on climate change. The South rightly asks why a citizen in China, India or Africa should not have the same right to resources or to polluting the atmosphere as an American or European.

9. Going back to the role of religion. It is regrettable, of course, that the leading religions have not been more proactive in the efforts so far to protect the environment. How does one explain the relative passivity? The Bible does not give a clear answer. It is easy to find passages in the Bible where humans are commanded to control the Earth and make maximum use of its resources. But there are also passages where the implication is made that humanity are the stewards of Nature.

Having said this, I do think that the notion that humans are the "crown jewels" of creation - and hence are given higher regard than other living things - might be one explanation why there has not been more action among most churches to protect the environment. The

problem here is that there seems to be a a lot of ignorance about the web of life, about the importance of biodiversity and how dependent we are of the services of ecosystems. Language may also be of importance. The separation of the concept of "environment" from creation, implying that the two are separate and not "one and the same", has probably caused confusion among religious people.

10. If we move over to the world of academia, the situation is also one of separate worlds. C P Snow wrote about the two cultures already in the 1950's. The separation of natural sciences and social sciences is as profound today, a point stressed by Professor Wilson in your fascinating book "Consilience" some fifty years later. Advances in physics, chemistry, biology, information technology etc have been phenomenal in recent decades. We know so much more about the physical world today, not least about the boundary conditions for life on Earth. Still, most people have very limited knowledge about all the new insights. Economists, for instance, are trained without having to learn much about the natural world. Yet, economists are in key positions in society and their models guide policy-making in most areas.

So if we criticize religion for not living up to its responsibility for sustaining life on Earth, more or less the same critique can be directed towards the scientific community as a whole. Knowledge is fragmented. This to a large extent is the result of the organisation of science and scientific institutions. Ever since Descartes and Francis Bacon academia has been dominated by reductionism, i.e. the notion that to understand the nature of complex things we have to reduce them into their parts. There are more than ten thousand individual disciplines at Universities and Scientific Institutions around the world. But there are very few programmes aiming at understanding the interlinkages and interconnections between different disciplines.

Most of the problems we face are at the intersection of disciplines and do require interdisciplinary work. From that follows the importance of systems theory, and the notion that the essential properties of an organism or living system are properties of the whole. These properties arise from the interactions and relationships among the parts and are destroyed when the system is dissected.

The fragmentation of knowledge – and hence of understanding – is, to my mind, a major cause behind the predicament we are in today! It strikes me, that although we live in a world where rationality and efficiency is much emphasized, the vertical organisation of both science and society most often leads to a maximization of the parts but rarely to the optimization of the system as a whole.

11. What can then be done? Is there still time to save the planet from further degradation? Is there still time to stabilise the climate?

Nobody has the correct answer. James Hansen, the nestor among climate experts, gives us only a few years to change course. His contention is that to accept an increase in the average temperature of 2 degrees C. is too much. By allowing such an increase a critical tipping point may already have been crossed. Hansen's advice is to aim for maximum + 1,7-1,8 degrees C. If Hansen is right, we have to take drastic action now. With regard to the ecosystem crisis I believe time is running out as well.

Science tells us pretty clearly what we should do. The question is whether we are capable of taking action in time, without even more dramatic warnings or crises.

In my mind, the following action, needs to be considered:

- First of all, we have to recognise that time is incredibly short. Incremental change will not do. We have to rethink the organisation of society and develop a different approach to both production and consumption systems.
- Secondly, we need a Partnership between the North and the South. Whether we call it a new Marshall plan or a Global Compact does not matter. What is at stake is equity in the way wealth, resources and "environment space" are being distributed. For climate policy this means support for the principle of contraction and convergence, i.e. equal per capita emissions over the long term.
- Thirdly, we need to reform global governance and develop institutions for the Planetary Age that we are in.
- We have to rethink the organisation of both science and education. While specialisation is important, we need a better understanding how things are interconnected and how to protect the whole. We need a systems revolution!
- We need a special educational effort, aiming at explaining to citizens the importance of biodiversity and the principles behind resource use and resource renewal on planet Earth. The importance of the photo-synthesis is crucial to understand the necessary balance between economic activity – and the throughput of energy and materials – and the ecological base. Here the principles of thermodynamics are of critical importance.
- We ought to learn more from Nature. I have been fascinated by the works of an American scientist – Janine Benyus – who has spent all her life studying how ecosystems function. Her book "Biomimicry" is full of examples of technologies from Nature that we could learn from and mimic.
- We have to rethink the economic model. We cannot continue with a model that is totally separated from the natural world. Today we run planet Earth without a proper balance sheet. No company could do so. We need to complement GDP, so as to give reflection to the qualitative dimension of growth. To continue to believe that welfare increases just because consumption goes up is very primitive. Moreover, we need to distinguish clearly between different types of Capital, in particular Natural Capital and Financial Capital. We need both. But as the economy is currently organised we are mainly preoccupied by financial assets. We have to give a value to ecosystem services. How otherwise can we prevent the tropical forests from disappearing?
- We need a fundamental debate on values in society. Central will be a discussion on Quality of Life. The role of consumption is crucial. There is a tendency today to value people more based on how and what they consume than who they are as human beings. Another issue has to do with the respect for life itself - and not only when utility is involved. Yet another issue has to do with the short term vs the long term. Our children and their children have little say about important decisions made today that will have profound impact on their lives. On all these value issues I believe we should seek guidance from the major religions.

12. In the more immediate short term many actions need to be taken. We need a global agreement on climate change to succeed Kyoto. Essential components will be to cut by half total GHG emissions before 2050, a Crash programme to support energy research and innovation – with a primary focus on solar energy - an ambitious support programme for risk reduction and adaptation to climate change in low-income countries as well as enhanced technology cooperation in the field of energy efficiency and renewables etc.

13. To conclude. Professor Wilson is right. His invitation to work

together – science, religion, politics – to protect biodiversity and to protect the atmosphere is worth all possible support. We can also witness a lot of movement recently among evangelical Christians in the US in favour of protecting the environment.

There is still time to avoid dangerous climate change. There is still time to put a halt to biodiversity loss. But we have to act swiftly and understand that incremental change will not help much. What is needed is a fundamental reorientation of the way society is organised – to go beyond short term interests in the interest of the whole!

Many thanks for inviting me. Many thanks for the attention!