



Earth Day Remarks by Dr. Jim Stephenson

April 27, 2008

EQUITY FOR SURVIVAL

This morning I would like to raise a couple of ethical issues associated with the changes required to address the problems of climate change and peak oil. One of the advantages of raising ethical questions is that I don't have to actually answer them. Ethical questions don't have right or wrong answers, just answers that reflect particular values.

One way of measuring the impact on earth of our lifestyles is to compute our ecological footprints. This is a methodology developed at UBC. They have calculated that the earth has about 28 billion acres of productive capacity. Presently, the average person uses 5.7 acres. (An acre is just a little smaller than a US-rules football field. A hectare, which is a square 100 metres on each side, is 2.5 acres.) Multiplying the 5.7 acre average by our 6 billion people gives 32 billion acres which is 20 per cent larger than the 28 billion acres available.

When we use 20 percent more of the earth's productive capacity than is available, the result is that we "run down" the earth's systems which leads to long term destruction.

While the average person's ecological footprint worldwide is 5.7 acres, the footprint of an average North American is 24 acres. Multiply that by the 6 billion people and you get 141 billion acres or the equivalent of 5 earths. That must not happen, and it won't happen, although which processes will prevent it are unknown at this time.

As we work to prevent 6 billion (or 9 billion) people from stomping the earth with 24-acre footprints, how do we allocate the earth's productivity. Do we maintain our 24-acre footprints in North America and attempt to prevent other countries from developing larger footprints? And within North America, do we allow our wealthiest to maintain their 100-acre plus footprints by keeping their large homes and jet-set lifestyles?

Or, do we undertake a redistribution of income and wealth, and strive for more equal footprints?

One approach, which has gained a wide following was put forward by a violinist and composer named Aubrey Meyer. The approach is called Contraction and Convergence. Contraction refers to reducing the level of CO₂ emissions to a safer level. Convergence refers to achieving that reduction by moving the CO₂ emissions in every country to the same per-capita level.

The question is how to allocate the reduced levels of CO₂ emissions across the countries. The alternatives are 1) to use market prices which gives an advantage to the wealthier developed world; 2) to use equal percentage reductions (as in the Kyoto Protocol) which allows today's highest emitters to remain the highest per-capita emitters; or 3) to say that (in Meyer's words) "the right to emit carbon dioxide is a human right which should be allocated on an equal basis to all of humankind."

While Meyer proposes Contraction and Convergence on an international level, there is no reason not to consider this approach within countries as well. Robert Pacala, at Princeton University, has recently reported that 8% of humanity is responsible for 50% of all CO₂ emissions. Perhaps we need a cap on personal emissions. Tony Blair proposed an internal cap and trade system under which every Britton would be given an allotment of the allowable tons of CO₂ emissions. Each person could either keep and use his or her share, or sell it to others who were willing to pay to have higher than average emissions. Either way, the poor would be better off and would receive their equal share of the atmosphere's capacity.

There is a precedent for this "same-share-for-everyone" approach. In the face of another planetary emergency, England, the US, and Canada all implemented a rationing system for food, gasoline, and clothing in the early 1940s. It was, in essence, an early cap and trade system, although it was not legal to trade ration coupons in Canada until 1943. One result was that at the end of the war, poor people were better fed and clothed despite the war-time shortages. This improvement in the welfare of the poor provided a foundation for creating the social safety net following the war.

How feasible are lifestyles with smaller footprints than 24 acres? To find out, the footprint scientists at UBC organized "footprint camps" where researches spent summers trying out lifestyles with different footprint sizes. Some of their conclusions:

"To live on one acre is possible, but would require a much less materially-focused life. ... Motorized travel is possible, but much less frequent. Institutional learning [... and] healthcare would be a challenge."

"A three-acre ecological footprint requires little sacrifice. One can be warm, dry, well-nourished, and have some comforts."

"The six-acre option could look like a typical North American lifestyle, just downsized, with less clutter and little waste."

We can do this!