Five Lessons of Climate Change: a personal statement

Professor Mike Hulme, March 2008

In recent months I have been chastised for some of my pronouncements on climate change. I have spoken out against the use of exaggerated language in the description of climate change risks; I have spoken about the limits and fragility of scientific knowledge; I have suggested that we should focus on nearer-term policy goals to improve human welfare rather than be so pre-occupied with one large longer-term goal of global climate management. As a consequence I have been accused of burying my head ostrich like in the sand; of undermining the power of science; of lacking passion about 'solving' the 'problem' of climate change.

I've been researching changes in climate and their significance for societies since 1981, first looking at the relationship between rainfall variability in Sudan and traditional drought-coping mechanisms. I have published over 100 peer-reviewed journal articles on climate change topics, served as a Lead Author on the Inter-governmental Panel on Climate Change in 1996 and 2001, trained 11 PhD students and from 1988 to 2000 wrote a monthly climate column for *The Guardian* newspaper. I was the Founding Director of the internationally renowned Tyndall Centre for Climate Change Research, am currently co-ordinating the EU's biggest project researching into options for European and global climate policy, am one of three chief editors of the journal *Global Environmental Change* and teach an MSc module on '*Climate change: science, society and policy*' at the University of East Anglia.

Building on these 27 years of experience and informed by my ongoing interactions around climate change knowledge with all types of people – the public, the professions, religious leaders, business people and national and international policymakers - this short statement is an attempt to summarise what I believe climate change teaches us about our world, what does matter, and what we should do about it. These are not my top ten tips of the day to 'save the world', but from my reflections on climate change they are five key lessons that should alter our mental and ethical maps of the world.

1. Climate change is a relative risk, not an absolute one

Climates are neither good nor bad, there are just good ways and bad ways of living with climate. Climate change is a different type of phenomenon to biodiversity loss (which is absolute) or ozone depletion (a novel risk introduced by an artificial chemical). We are changing our climate, not losing it. There is just as much climate as before; just as much weather, only it is different weather. We may be losing certain climatic types (in certain places), but we are also creating novel climates (in other places). The risks climate change introduces are therefore changes in relative risks. The distribution of climate risks around the world is changing and how serious this is depends – as all climate risks for humanity have always depended – on how able we are to manage them. [In the sentence above we could replace the word 'risk' with 'resource', since climate also brings us resources which we can use constructively as well as risks which can be destructive].

2. Climate risks are serious, and we should seek to minimise them

Climate change teaches us – in case we preferred to forget it – that climate risks are serious and tend, differentially, to victimise the most vulnerable: the poor, the elderly, the lonely, the uneducated, the foolish. Our awareness of changes in climate has made us much more aware and sensitive to the nature of risks that climate poses for societies. [A growing world population, and hence increasing exposure, has also contributed to this awareness]. Many of these risks are not new – hurricanes, droughts, floods, tidal surges – and one story of humanity is the story of how we have suffered from such dangers in the past and how we have sought to protect ourselves against them. Stories about climate change teach us that we should be more alert to these climate risks, that we should seek to reduce the number of people who are vulnerable to them and that we should seek new ways to protect those who remain exposed to these risks.

3. Our world has huge unmet development needs

Investigations into the causes of climate change have shown us – in case we preferred to forget it – that our world is a very unequal one. Not only has a small proportion of the world's (historical) population consumed a large proportion of the world's (historically) exhumed resources, but this very inequality of consumption has introduced a huge unmet aspirational demand for future development in many parts of the world. The Millennium Development Goals are an expression of such unmet demand. Climate change has taught us – or reminded us - that the consumption of energy is the most visible index of such latent demand for development and that with existing technologies there can be no meeting of these development aspirations without a significant increase in energy and, for now, carbon consumption. Climate change teaches us that acceding to such morally legitimate demands comes at the cost of altering the world's climates.

4. Our current energy portfolio is not sustainable

Climate change teaches us – in case we preferred to ignore it – that our existing energy technology portfolio with high dependencies on gaseous and liquid carbon-based fuels derived from fossil sources will not survive two more generations. A significant energy gap is just over the horizon and this will demand a very substantial transition in the world's energy technology: finding substitutes for oil and then gas. Climate change teaches us – in case we were complacent – that we should do what we can to conserve carbon-based fuels and that we should accelerate the search for new, non-carbon based energy sources.

5. Massive and deliberate geo-engineering of the planet is a dubious practice

Climate change teaches us – in case we had not learnt the lessons of history – that such massive intervention in a large and complex system that we don't understand, and hence can't control - is an unwise thing to be doing. There have been too many failed human projects of seeking mastery over the natural world for us to attempt one more. As we continue to construct climate change as a larger and larger problem, and as we discover that the 'solutions' to this amplified problem are less and less tractable, so attention has turned to the idea of conducting a second large-scale geo-physical experiment with the planet. Only this time rather than being inadvertent it is to be an experiment that is deliberately designed and controlled through human agency; it is truly to be an exercise in planetary geo-engineering conducted by the highest life form known to us - ourselves. The purpose of such geo-engineering – mirrors in space, aerosols in the stratosphere, deep pipes into the oceans, nutrient fertilisation of the surface waters – is to stabilise climate and/or to lower carbon dioxide concentrations in the air.

None of these five lessons should really be new to us. There are other ways of reaching each of these conclusions, most of which (should) have been clear to us for at least a generation. The idea of climate change – and hence one might say the purpose of climate change – is to make sure we learn these lessons and act on them. Climate change is not the problem to be solved; climate change is the idea we must use if we are to learn our lessons properly. It is not clear to me that we need an overall global climate governance regime for this to happen; indeed, seeking such a governance regime might be a distraction from taking purposeful action on these five lessons.

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