

Prof John Sweeney
Reflections on Climate Change

From academic backwater to global centre stage

During their years at university, students frequently wonder at the almost unhealthy enthusiasm some of their lecturers show for seemingly obscure, perhaps trivial and apparently irrelevant areas of knowledge.

In a world increasingly seeking a commercially-applied focus for research, an objective reiterated in the recent 'An Bord Snip' report, the value of encouraging academic research, without having an obsession with its immediate marketability, is again under sustained attack from the 'bean counters' at national level. That such a view is short sighted is well demonstrated by the example of climate change research as outlined by Prof John Sweeney.

I began lecturing on aspects of climate change in NUI Maynooth in the late 1970s. Alumni of a certain age may well remember my faltering steps in what was generally considered a rather 'dry' and theoretical topic, maybe of interest in explaining past environmental changes in the Irish landscape, but not really something that would profoundly affect themselves or their children. It was in the early 1980s that I thought it would be useful to see what rainfall pattern existed over Ireland with different wind circulations, something that prompted the inevitable question: what if the frequency of these circulations changed for any reason? The realisation that climate change had not only occurred in the past but was underway in the present, possibly enhanced by human activities, clearly had implications in many areas affecting Ireland. An early paper on the Greenhouse Effect in Ireland had (an also much younger!) Pat Kenny asking me when we could expect to see 'Chateau Wexford' wines, and the press speculating on Mediterranean lifestyles on the 'terrazzo-tiled patios' of south County Dublin. There was of course no significant national research funding for environmental projects until the turn of the century and research was a solitary pursuit for most academics. In Maynooth the subject of climate change remained essentially a specialist option inflicted by physical geographers frequently on generations of wannabee human geographers who frequently saw its scientific approach as too far removed from their social and economic interests.

NUI Maynooth was however well placed to benefit from the advent of new approaches to climate change analysis as the age of computers and Geographical Information Systems developed. Having a track record in research in the topic helped capitalise on these advantages further. The first national scale development of detailed future climate scenarios and their impacts caused a fundamental shift in public attitudes in the early years of the present decade. Using novel techniques of downscaling global climate models to produce higher resolution spatial outputs, it became clear that in areas such as water resource management, agriculture and biodiversity, Ireland faced considerable challenges, and not always in the long term. Would crops such as barley, wheat and potato continue to be viable? Would Dublin run out of water during a dry summer? Do we need to strengthen our coastal and river flood defences? Would the bogs dry up and the turloughs disappear? These raised emotive as well as scientific issues. Indeed when a small sample of the Irish diaspora in the USA was asked by us about climate change in their native land it was the cry of the curlew, the loss of the bogs, the change of a familiar landscape, that worried them most. While at the behest of the EU we have started to address the problems, and work at the University has grown by leaps and bounds, culminating in the imminent designation of the Irish Climate Analysis and Research Centre (ICARUS) as a fully fledged Research Institute, the magnitude of the problem has become increasingly apparent.

NUI Maynooth has largely retained its academic leadership of the topic within Ireland and looks forward to addressing many of the key challenges ahead. Better facilities and more powerful computing resources have come along and a strong line of research has been established. Adaptation to climate change as much as mitigation of it is the new frontier increasingly being addressed by Maynooth's researchers. But the nature of the problem is constantly evolving. Climate change has become a watchword for many other issues. It now carries ideological, ethical and economic connotations which take it beyond the realm of the simple scientist. Reconciling such approaches with food production concerns, energy use, sustainable transport, water security and especially poverty alleviation in a world where national and local priorities are the sticking blocks at the negotiation table means we have to confront an 'inconvenient truth' of another kind. It is clear now that the problem of climate change cannot be 'solved' in conventional terms – rather a multi-pronged approach is necessary. This challenges our value systems and how we view Irish versus, European and global priorities. We like to think local and act global, but in reality we do not readily sacrifice present satisfaction for future well-being. The log jam in international policy will not easily be broken and a comprehensive agreement is unlikely to emerge from the vital Copenhagen conference at the end of this year. All the while the clock is ticking, reducing options for those that come after us.

Scientists now increasingly realise that multidisciplinary skills are essential in addressing climate change issues. In this respect at least NUI Maynooth has a strong tradition of equipping its graduates with a wide perspective on the world. Perhaps as an alumnus you may not always be conscious of seeing things in a broader context. But certainly having shared Rhetoric House with colleagues whose interests ranged across all parts of the disciplinary spectrum I think the message of the value of diversity got across. Diversity in approaches and freedom in research offers the best way ahead. Perhaps, just like the issue of climate change originally emerged, some seemingly obscure, trivial and apparently irrelevant research approach may provide the 'silver bullet', or more likely the 'silver pellets' to buy the time necessary to effectively tackle the defining challenge of our time.