

Sustainability: Disciplines, Interdisciplines, Knowledge, and Values

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The big sustainability issues confronting global, national and local communities demand integrated approaches in research, policy and action. That need is advanced in scholarly literature, official policy statements, and the way in which positive actions are pursued by public, private, civil society and community organisations. We must integrate knowledge, policy and actions across environmental, social and economic domains to seek an ecologically sustainable and humanly desirable future. That is an enormous task, two aspects of which I will discuss.

The first is how to undertake research and knowledge construction in an integrative or interdisciplinary fashion. Sustainability problems are caused when actions are taken on the basis of knowledge arising from silos, without consideration of wider implications, and we now seek to undertake research to establish integrated understanding and to inform more integrated policy and actions. Drawing on the literature and experience in interdisciplinary research, I will discuss deficiencies that too often limit our endeavours – when and why we need interdisciplinarity; the substitution of a slogan of interdisciplinarity for quality and rigour; the lack of coherence in the “art and craft” of interdisciplinary research; a common failure to engage in joint problem-framing; questions of the power relationships between knowledge systems; and the importance of *intra*-disciplinary variation.

The second aspect is the role of *values* – intellectual, spiritual, political, economic and cultural. The human enterprise is, and always has been, a matter of different, often contested, and sometimes reconciled values. Everything about sustainability is imbued with values: research and knowledge construction, international and domestic policy, and individual choices. Rational policy choices are inherently political. Can we accept the different value bases of positions taken in research, policy and action, but still maintain positive momentum with a degree of understanding, tolerance and – dare I say it – objectivity? That is an open question.

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The Club of Rome report on the Limits to Growth published in the 1970s, warning people the world over that there was a 'limit' to the way resources were being consumed by industrial capitalism for the ever growing needs of modern man was ironically first received with a sense of alarm but then soon "reassuring" voices from economists and others put out the message to continue with the resource exploitation and consumption with a "business as usual" attitude. It was argued that resource shortage would be met either by substitution of the scarce resources or shifts in resource use would occur and thus "resource limits" would be overcome. Such "business as usual" arguments stopped midway any reflection that may have happened about the way we consume resources and our attitude to nature and the resources that planet earth has provided us not only for our basic needs and comforts but more so for the ever growing demands for the luxuries of life.

So while, the intelligence of human beings was used to show how resource limits would be overcome, than how to use this intelligence to live and manage with the prospects of diminishing resources, nature in its own inimitable manner of demonstrating to humankind the twisted character of mankind's rationality and logic, showed that however man may overcome the constraints of resource shortages, and even if such limits were relative, there were other limits that were "absolute". These limits are what we may call "sink limits" That is however "clever" humankind may be in managing "resource limits" the capacity of the Earth's Ecology to absorb the waste gases of human consumption, had a definite limit. There was an absolute limit to what the atmosphere could absorb. It is the reaching of these "sink limits" and the danger of breaching these limits that was now posing a threat to the very existence of humankind as a species.

The choices were now clear. Either make fundamental transformations in the way global capitalism functions with regard to its impact on planetary ecology by recognizing and respecting these planetary limits or face extinction. Such a dire situation has not only serious ethical consequences but fundamentally poses the issue of global democracy; of the rights of those in this generation whose very existence is threatened by the luxury consumptions of others and the rights of future generations threatened by the consumptive lifestyles of present generations. Science and Technology now faced the challenge of embracing the discourse of democracy and rights and transform the way modern global capitalism functioned or else condemn the human species to extinction. Entering as we are what geologists are increasingly saying is an era to be called "Anthropocene" we could ask ourselves, that when millions of species disappear every minute so what is so important about human beings that we should survive? Which raises an even more fundamental question, "What right have we to make a decision for the collective suicide of all human beings including in the future"? These are the questions we must ask and answer and show our responsibility to future generations. In the answers we seek lie many philosophical and ethical challenges and fundamental choices about our attitudes to science, technology, democracy and capitalism

