

Talking points for keynote

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Challenges & lessons learnt in the use of Science for Sustainable Development

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In 1998, I organised an EU-sponsored panel at the UN CSD in New York, about the challenges in the use of science for sustainable development (ppt). Some paragraphs of the preparatory paper:

“Those who place their faith in science and technology may suggest that knowledge advances can, in themselves, in due time bring solutions to the dangers, disruptions and dilemmas that early science and technology interventions have generated. We propose however, that the inherent complexity, high stakes and urgency of SD is not

something that can be handled by technological advances alone. New quality assurance processes are needed for science and policy for sustainability, based on wide societal and ethical reflections.”

“This proposal shows a clear understanding that scientific practice is not fundamentally, ‘value-free’ but that it has to find its justifications by reference to prevailing social concerns. Similar views are now voiced widely in scientific networks.”

In 2001 we reinforced the message in a UNESCO publication (ppt), arguing that

“The major challenges for a 'sustainability science' arise from increasing complexity at the ontological, epistemological, and political levels, calling for an integrated science going far beyond an inter-disciplinary style of research.”

“Complex socio-ecological systems share a number of fundamental properties that require changes in scientific methods, criteria of truth and quality, and conceptual frameworks. These properties include non-linearity, plurality of perspectives,

emergence of properties, self-organisation, multiplicity of scales, and irreducible uncertainty.”

Science for the twenty-first century: from social contract to the scientific core Gilberto C. Gallopín, Silvio Funtowicz, Martin O’Connor, and Jerry Ravetz (Int. Journal Social Science 168: 219-229 (2001) www.unesco.org/issj)

Twenty years after I would not change much of the diagnosis and recommendations, but I feel that little has been done in facing the challenges of SD.

Perhaps Gramsci was too pessimistic when he stated, “history teaches, but it has no pupils.”
(ppt)

“Illusion is the most tenacious weed in the collective consciousness; history teaches, but it has no pupils.”

[Antonio Gramsci "Selections from political writings \(1921-1926\)"](#)

[Italia e Spagna in l'Ordine Nuovo, anno I, n.70, 11 marzo 1921]

Thus, what have I learnt?

- when dealing with complex practical and political questions, the traditional solving strategy of reducing value issues to technoscientific problems must be changed. (ppt)
- Science and technology can support the effort but cannot replace the process that is fundamentally social, political and institutional. The encroaching of the value space by technoscientific silver bullets not only is unlikely to resolve the issues but also can increase conflicts.
- We have not yet answered the question of what we want to sustain and why. We cannot sustain everything; more precisely, we do not want to sustain everything. Clearly, we do not want to sustain practices and lifestyles that have contributed to our present predicaments.
- How and who is going to make those choices? Setting goals might be a good idea but sustaining socio-political processes and fair institutions to achieve those goals seems to me urgent. Also because the goals (the what) will surely be modified as we learn during the process (the how and the why).

- We have not yet answered the question “sustainability of whom?” Who (what) is the subject of sustainability? A gene-edited population of once-were-humanity colonising Mars in order to survive?
- The last lesson I learnt is that sustainability is not in the future but in the present. Personal experience taught me that most people want to be reassured that they are going to survive 2019.

