

# Environmental management is inherently multi-disciplinary

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The inauguration of this issue, with the merger of two Springer journals – *Clean Products and Processes*, and *Environmental Engineering and Policy* – is a tacit acknowledgement of the multi-disciplinary nature of managing environmental systems. There can be little dispute over the thesis that sustainability should be the guiding light for managing the environment now and in the future. Beyond the application of science and technology, other tools within the realms of ecology, economics, sociology and policy must be considered while trying to solve environmental problems, especially the larger problems that affect human health and the environment in measurable ways. Ideally, all these tools need to be integrated. No known algorithm exists that allows us to achieve sustainability; yet continual learning would eventually lead us towards this holistic and integrated approach – our ultimate goal.

Sustainability is like *laissez faire*: it is a worthwhile ideal to strive for, but it is not attainable everywhere and not at all times because it is so multi-dimensional and because the dimensions can sometimes be in conflict. More humans will inhabit the earth in the future. Yet the earth's natural resources, which support our lives and living standards, are being depleted at an ever-increasing rate. This fact alone justifies our espousing the principle of sustainability. We cannot invent a way to sustain our increasing living standards through more innovative gadgets. We created this journal to provide a forum for deliberating on the interlocking issues of science, technology, ecology, economics and policy – all within the context of sustainability.

Impressive advancements have been made in the realm of technologies with the result that the air we breath today is cleaner and the general health of the environment, at least in the developed world, is superior to a time when

concern for the environment did not explicitly appear in our design considerations. The one-dimensional approach of applying technology to solving environmental problems has obvious limitations. For example, the desire to increase the miles per fuel gallon for automobiles, whereby the automobiles are lighter in weight and structurally not very strong, can result in propensity to drive longer distances, increased number of accidents and loss of lives. The trade-offs are not always simple.

Though Governments have an important role in setting standards for environmental protection, often these standards are themselves results of political compromise. Many industries have come forward with their own approaches to addressing these issues. Some have strived to find profits while paying attention to environmental issues, sometimes by complying with regulations, other times by going beyond compliance, still other times by negotiating management practices with unions or environmental groups. Thus the slogans: "Pollution Prevention Pays" (PPP) or "Waste Reduction Always Pays" (WRAP).

In this journal we will present papers on cleaner technologies; science-based policy considerations that facilitate our understanding of the interactions of the conflicting factors that enter into environmental systems management; and scientific, sociological and economic models for achieving progressively reduced environmental impacts of current practices in industrial, agricultural, transportation and developmental activities. Especially important are those contributions that will combine disciplines that reflect the complexity of solving environmental problems. We intend to build this into a truly international experience for the purpose of learning about differences that arise because of diverse sociopolitical and ecological situations in different parts of the world.