

Editorial

Talking about sustainable development is in vogue these days. Clearly, it makes a lot of sense and the world will be a better place if all development was truly sustainable. I believe that this concept is also applicable to research and development, both in academia and industry, effort as well. Let me explain.

We have worried, with good reason, about the continually decreasing size of the R&D funding pie almost all over the world. Granting bodies have tried to cut the pie many different ways. Usually, areas that are currently popular for whatever reasons receive larger shares of the pie thus reducing the funding for some other areas – or worse, even eliminating funding for many of the so-called traditional areas of research. The implication is that already enough R&D has been conducted in areas that have existed for longer periods. New is automatically assumed to be innovative, creative and thus valuable for the future development of the economy. Larger portions of R&D funding have gone into energy technologies, environmental issues, bio-technology, IT, etc., over the past two decades, and more recently into nanoscience and nanotechnology. Clearly, all these areas are important and deserve funding. The issue is how much and at what cost to the other areas.

This is why I think we need to examine my idea of sustainable research level. Just for illustration, if all institutions around the world focus their effort on developing nano-technology, are there enough opportunities for so many to make original contributions? Also, is the market large enough for all the players to obtain adequate returns on their investments? Some institutions will lead and outpace most others as a result of their access to higher levels of human and financial resources. At the same time, areas that industry currently needs and technologies that form the lifeline of current businesses will be penalized as no new funding is made available for the new R&D areas. Overcrowding of research areas is as risky as under-populating them with under-funding. Over-funding does not assure development of innovative ideas; it may even impede it as funding becomes easier to obtain.

In summary, I wish to postulate that for each research field at any given time there is a sustainable level of funding support beyond which the returns on investment will decline. The opportunity cost of not doing R&D in other areas will rise as well. Drying is considered a mature area – in many ways it is. However, there are still many complex problems that deserve attention and offer challenges to researchers. The return on the modest levels of R&D funding needed to carry out drying research can be substantial since this operation is so energy-intensive and has a direct impact on product quality and the environment. What is needed is a focused effort with collaboration between industry and academia. Aside from producing highly qualified researchers, such cooperation will also produce improved technologies that will benefit industry and the consumer at large. It is obviously unlikely that industries will be operating without the unit operation of drying, which means investment in drying R&D will have a useful pay-off at all times.

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