Editors' Notes

Ehsan Masood
Daniel Schaffer

These days, you will be hard pressed to find the phrase 'third world' repeated in polite society. Like other examples of antiquated language (such as 'foreign aid' in place of 'development assistance'), it harks back to a different age — one when the science-rich nations of Europe and North America 'transferred' their know-how to the countries of the Southern hemisphere, when new knowledge was something to be bought from others or gifted, but neither built at home nor, heaven forbid, refined or improved, and when 'partnerships' for development usually included distinct sets of leaders and followers, senior and junior members.

This was also the age that witnessed the birth of TWAS in 1983, and its spirit is reflected in the initials, which then stood for 'Third World Academy of Sciences'. The organization's name has since been changed to 'the academy of sciences for the developing world'.

A quarter-century later, the situation is utterly different, and prevailing attitudes even more so. The majority in government and industry, as well as many in civil society, in the developing world now view science, technology and innovation (STI) as essential to economic development strategies. They see STI as being comparable in importance to the need for universal education and the desire to attract foreign direct investment. Perhaps, more importantly, there is a new confidence among developing nations — one that sees their researchers studying, refining and improving on previous work, often building on scientific activity that took place in much wealthier societies, and increasingly creating new knowledge on their own.

Much of this might sound like good old-fashioned political rhetoric, which has sometimes been the case. Yet, as the articles in this supplement demonstrate, in a growing number of countries, good intentions are being matched by concrete action.

This supplement's primary goal is to examine critical issues in STI and in science-based international development. The articles are written by prominent scientists. Many are from the developing world. All have devoted their careers either to scientific research or to science-policy issues in the South. Some have done both. All are either members of TWAS or scientists who have worked closely with the academy. Together, their contributions provide a set of unique perspectives.

While the supplement explores many issues in depth, it is by no means intended to be a definitive study. Think of it more as a sampling — a primer on the primary issues in STI facing the developing world today.

STI has served as a source of wealth and

comfort since the days of the earliest empires. In the modern age, it has helped to reduce poverty, combat food insecurity and provide livelihoods for millions. Yet, applications of modern science and technology have also catalysed some of history's most perplexing problems. The technologies that brought us the internal combustion engine, the green revolution and nuclear power have also been implicated in climate change, biodiversity loss and threats to global security.

There are many who argue that it is wrong to rely so heavily on STI to solve environmental and other problems — especially given the prominent role that it played in creating them in the first place. These voices remind us of the virtue of caution and vigilance in a world where resolute belief in the power of science and technology, and a desire for wealth, often lead us to overlook long-term risks and vulnerabilities.

Yet, in common with the authors of this supplement, we view the issue differently. Throughout history, there have been many examples where potential catastrophe has been averted by human ingenuity allied with advances in science and technology. It is our strongly held view that the human capacity to learn from the past and to innovate will allow us to rise to the challenge once again.

Our effort to record and assess STI in developing countries has been a cooperative one, led by TWAS together with the Nature

Publishing Group. The Swedish International Development Cooperation Agency has served as the project's primary funder. The Wellcome Trust and the Kuwait Foundation for the Advancement of Sciences have provided additional support. We are grateful to each of these organizations for their generous contributions.

We would also like to thank the staff at the Nature Publishing Group for their assistance and expert advice, particularly Claudia Banks, Samia Burridge, Nick Campbell, Suzanne Coleman and Sarah Greaves. Prudence Waller, a photography editor, proved instrumental in identifying and selecting images. Tasia Asakawa, Antonino Coppola, Gisela Isten and Brian Smith, of TWAS's public information office, contributed valuable assistance, as did freelance editors Michael Bond and Victoria Kitchener.

We would be remiss not to note that this publication, as well as so much else that TWAS has accomplished, would have been impossible without the support of the Italian government, which has generously provided core funding for the academy since its inception. ■

Daniel Schaffer is the public information officer for TWAS, the academy of sciences for the developing world, in Trieste, Italy. At the time of commissioning this supplement, **Ehsan Masood** was a freelance science writer and editor. He is currently acting chief commissioning editor at *Nature*.

WANG XIAOCHUAN/XINHUA NEWS AGENCY/CORBIS