

Science for All Nations

In the world of the 21st century, critical issues related to science and technology (S&T) confront every nation. How can we stimulate growth in an information economy? How can we prevent global and regional environmental damage? What is the best way to introduce beneficial new technologies, thwart acts of terrorism, or respond quickly to the rapid spread of new diseases? Today, no nation that wants to shape informed policies and take effective action on such issues can afford to be without its own independent capacity in S&T.

At the United Nations Millennium Summit in September 2000, world leaders adopted the Millennium Declaration, a set of common objectives that focus on the central challenges of our time. At its heart are the eight Millennium Development Goals (www.un.org/millenniumgoals), which range from halving extreme poverty to halting the spread of HIV/AIDS and providing universal primary education, all to be met by the target date of 2015. They form a set of simple but powerful objectives that every man and woman in the street, from New York to Nairobi to New Delhi, can easily support and understand.

But so far, progress toward reaching these goals has been mixed at best. There are many reasons, including slow growth in the world economy, slow progress in reforms among developing countries, and inadequate support from developed countries. What is needed is a true partnership of developed and developing countries—a partnership that includes S&T. Cooperation among the scientific and technological communities of different countries and regions yields a large collective reservoir of knowledge and expertise. If every nation gains full access to this broader world community of science and has the opportunity to develop an independent science capability, its public can engage in a candid dialogue about the benefits and risks of new technologies, such as genetically engineered organisms or nanotechnology, so that informed decisions can be made about their introduction into our lives.

We are fortunate to live in an age that offers new opportunities for involving all nations in the great adventure of S&T. New models of science education programs for upgrading educational opportunities are being developed everywhere, such as the Programa Amigos de la Ciencia of Chile (www.gener.cl/comunidad/ciencia.shtml), which teaches science to children from impoverished backgrounds and encourages them to pursue scientific studies at the secondary level; or the science education reform model of the U.S. National Science Resources Center (www.si.edu/nsrc), which provides hands-on linkage of students' newly acquired skills to their everyday lives. New forms of communication now allow scientists in even the least developed nations to join in research collaboration with colleagues in neighboring countries or on the other side of the world. For instance, the London-based Science and Development Network (www.SciDev.net) offers up-to-date information on science-related issues to the developing world and builds regional networks of institutions.

These efforts are encouraging, but more is needed. Reaching these goals requires us to tap into human creativity, resourcefulness, and innovation to the fullest extent. A recent report, *Inventing a Better Future: A Strategy for Building Worldwide Capacities in Science and Technology* (www.interacademycouncil.net/streport) proposes new initiatives to strengthen national scientific capabilities worldwide and to foster global cooperation. It is the product of an international study panel of renowned scientists convened by the new InterAcademy Council (IAC), a body formed partly in response to my own appeals to national science academies to mobilize their best scientists and provide expert knowledge and advice to the United Nations and other international organizations. The report recommends that every nation develop an S&T strategy that reflects local priorities, including support for basic science, education, and training that will allow it to achieve local competence in selected areas of national priority. The report suggests that developing nations commit a minimum of 1 to 1.5% of their gross domestic product to S&T capacity-building.

A second IAC report, to be released this summer, will contain specific recommendations for using S&T to improve agricultural productivity in Africa. It is being produced by a panel of experts from Africa and other regions working together to address an issue critical to the lives of hundreds of millions of Africans.

These efforts by the IAC show that the spirit of global partnership is alive and well within the scientific communities of the world. I hope that we will build further on that momentum and that it will spread to other spheres of human endeavor.

No nation can afford to be without its own independent S&T capacity.

Kofi Annan

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