

EXECUTIVE OFFICE OF THE PRESIDENT
PRESIDENT'S COMMITTEE OF ADVISORS ON SCIENCE AND TECHNOLOGY
WASHINGTON, D.C. 20502

January 12, 2001

Dear Mr. President:

We are submitting this letter on behalf of our colleagues on your Committee of Advisors on Science and Technology. We applaud the many accomplishments of your Administration in advancing science and technology to address challenges facing our global community. In the areas ranging from human health, to our environment, to new materials for our economy, the research initiatives that you have supported are an asset to people of all nations. Furthermore, international science and technology initiatives, such as your International Energy Initiative, are essential if our nation is to meaningfully address the global scope of this problem.

In general, we find growing international recognition of the critical role that science and technology play in the health and stability of economies and societies around the globe. Our nation has been a great beneficiary of these capabilities due to our steady investments in science and technology. Yet the aspirations that we possess as a nation, and the challenges that we must confront, are not ours alone. Economic prosperity, better health care, energy security, environmental soundness, adequate food and nutrition, and disaster mitigation are goals shared by other nations. In many cases, to effectively address such issues, even if valued in a narrow domestic U.S. context, we must work closely with our partners abroad. Ultimately, a strong economy in the United States and other industrialized nations depends on worldwide prosperity and sustainability, and this will be increasingly science-based.

Although we have strong collaborations in science and technology with many of the advanced economies, this is much less true of our partnerships with the developing world. Despite the expanding possibilities created through science and technology, the benefits are more slowly reaching much of the world's population, particularly populations in developing nations. Nations that are home to 80 percent of the world's population, account for only 20 percent of the world's graduates with advanced degrees in science and engineering, and an even lower proportion of employed scientists and engineers. Furthermore, most of these are concentrated in a few countries, so that for some 150 countries this is a very small and fragile base in these critical fields.

This relationship also reflects the general challenge of broadening education so that new opportunities are seized in these societies. The capacity in developing countries to benefit from and feed back into the global science and technology enterprise is often very weak, and this hinders these regions as well as our interests.

In particular, the science and technology gap between the wealthy nations and those less wealthy appears to be growing, and this penalizes the global community and compromises the achievement of our goals. First, weak capacity in science and technology deprives these countries of expanding opportunities and handicaps their

ability to address shared concerns. For example, improved capacity in science and technology can be applied to reduce famine and diseases locally that are of concern globally; similarly science and technology capabilities can improve our ability to protect the environment across borders. Second, the widening gap between the wealthy and poorer nations inhibits progress and aggravates tensions. This impacts not only the quality of life in these societies, but also their political stability and U.S. interests in trade, strengthened political partnerships, and the sharing of unique data, resources, and experiences. Third, a growing gap places increasing demands on our limited foreign assistance support. Increased science and technology capability in developing countries will help to make our foreign assistance contributions more effective and lasting.

Thus, we strongly recommend that greater priority be placed on the importance of investing in science and technology partnerships with the developing nations, from innovation through diffusion. Two examples may help to illustrate this point: these are the cases of emerging infectious diseases and science and technology in food and agriculture in developing countries.

Thanks to the leadership of your Administration, there is far greater awareness today of the significance of emerging infectious diseases and of the need to address this as an international challenge, not just a domestic one. Your Presidential Decision Directive, NSTC-7, focussed attention on this issue at a critical time, as the cases and causes are again increasing. Yet the toll taken in developing countries continues to be severe, malaria, tuberculosis, acute respiratory infections, and of course, HIV/AIDS are among the diseases that are a significant burden to many developing economies. To cope with these challenges on the front line, we need to have a greater priority on developing the needed capacity: better laboratory and diagnostic capabilities, training, and information networking and other forms of effective surveillance. We also need to work with others to develop the market incentives to help ensure that needed vaccines are developed and distributed. You have taken an important step in the direction of this last issue with the Millennium Vaccine Initiative, and we encourage the expansion of this effort to strengthen science and technology capacity.

Science and technology in food and agriculture is another area in which the advances that are enjoyed by the wealthier nations are not transferred effectively to those that are poorer and in greater need of such help. The case of agricultural biotechnology is of particular relevance in this context. With diminishing returns from the Green Revolution that so effectively met global food challenges for the past several decades, countries are finding that they need to look to new approaches to feed their populations. Agricultural biotechnology offers such promise. However, as in the case of infectious diseases, there is a weakness in the capacity of many nations to take advantage of these advances, and there is a mismatch with the market incentives. In the case of agricultural biotechnology, local capacity is particularly important as local environmental conditions vary widely. For example, USAID once played a major role in funding university capacity development related to agriculture and food sciences. However, over the past decade the ability to fund such activities has been sharply curtailed. University to university linkages may prove to be a key in spreading the scientific capabilities, which in turn can

open additional markets and lead to a more informed international discussion of opportunities for food security.

Science and technology capacity building has also been identified in your new initiative to advance international energy partnerships as well as to address the international digital divide. Yet in these cases, as in the cases above, the ability of U.S. agencies to respond is limited by the constrained resources and often also by historical legislative mandates. Although we recognize that other issues are also important to successful progress in some of these areas, such as intellectual property protection, strengthening the science and technology capabilities of these nations is one precondition for sustained progress.

Congressional support to address international science and technology capacity building will, of course, be critically important. We note that there are signs of bipartisan interest, particularly in the areas of infectious diseases and agricultural biotechnology. Across many issues, strengthening partnerships in science and technology with developing nations provide important leverage in meeting internationally shared concerns.

In summary, we recommend that science and technology in international development be assigned a higher priority in the U.S. Government. Such a strategic effort would advance our policy and economic goals, promote global sustainable development and greater stability and security, and strengthen America's position as a leader among all nations of the world.

Sincerely


David Hamburg


Shirley Malcolm