

Science and Technology in U.S. Foreign Assistance

Interim Report to the Administrator,
U.S. Agency for International Development

Committee on Science and Technology in Foreign Assistance

Development, Security, and Cooperation
Policy and Global Affairs

NATIONAL RESEARCH COUNCIL
OF THE NATIONAL ACADEMIES

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NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The members of the committee responsible for the report were chosen for their special competences and with regard for appropriate balance.

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ACKNOWLEDGMENTS

This report has been reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the NRC's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published report as sound as possible and to ensure that the report meets institutional standards for quality and objectivity. The review comments and draft manuscript remain confidential to protect the integrity of the process.

We wish to thank the following individuals for their review of this report:

Patrick Cronin, Center for Strategic International Studies
Kerri-Ann Jones, National Science Foundation
Gerald T. Keusch, Boston University
Princeton Lyman, Council on Foreign Relations
Mark L. Schneider, International Crisis Group
Charles Weiss, Georgetown University

Although the reviewers listed above have provided many constructive comments and suggestions, they were not asked to endorse the content of the report, nor did they see the final draft before its release. The review of this report was overseen by Alexander Flax, who was responsible for making certain that an independent examination of this report was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this report rests entirely with the authoring committee and the institution.

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September 29, 2004

The Honorable Andrew S. Natsios
Administrator
United States Agency for International Development
1300 Pennsylvania Ave. NW
Washington, DC 20523

Dear Administrator Natsios:

We are pleased to provide you with preliminary views on the critical role of science and technology (S&T) in development assistance that have been prepared by a committee of experts of the National Research Council (NRC). The Committee was established in accordance with a cooperative agreement between the U.S. Agency for International Development (USAID) and the NRC. The activities of the Committee are also supported by grants from the Bill and Melinda Gates Foundation and the Alfred P. Sloan Foundation and by internal funds of the NRC.

A more comprehensive final report will be forthcoming next spring. The initial views of the Committee may assist you in making decisions concerning near-term steps that can be taken to strengthen the S&T capabilities of USAID and to integrate S&T more effectively into programs that are supported by USAID.

During the past nine months, Committee members and staff have had extensive interactions with many offices of USAID. The USAID staff has been very generous in devoting time in support of our activities. We have been quite impressed by the capabilities and commitment of the USAID staff members who are responsible for addressing a large array of technical issues and this interim report draws heavily on our discussions with them. During the months ahead, we will expand our consultations to include discussions with a number of U.S. departments and agencies, international organizations, and other USAID partners and with officials and practitioners in several countries that will be visited by members of the Committee. Thus, the final report should be considerably richer and include more broadly based analyses.

The Significance of Science and Technology in Foreign Assistance

The term science and technology is used in this report to include the natural sciences, engineering, technology, the health sciences, and the social sciences. In most cases, the S&T activities and work cited in the report are components, or enabling elements, within development programs directed at specific economic, social, and political objectives. This definition

recognizes the pervasive role of S&T in development and may be somewhat broader than traditional definitions focusing on research and science and engineering education.

From the vantage-point of developing countries, S&T describe extensive interconnected national and international systems of activities that encourage the acquisition and generation of important knowledge and the application of this knowledge to improve the quality of life and security of populations. Thus, S&T are fundamental building blocks for development. Recent reports from the World Bank, the OECD, and a group of more than 90 Academies of Sciences located throughout the world underline the important role of S&T in reducing poverty and promoting economic growth in countries at all levels of development.

In the context of U.S. foreign assistance, S&T encompass the capacity of the public and private sectors in developing countries to:

- provide technical services that support economic and social development activities—services such as health care, education, agriculture extension, information dissemination, transportation, communications, maintenance and upgrading of water supplies and sanitation facilities, provision of energy, and environmental improvement;
- carry out research, development, technology transfer, technology adaptation, and technology application activities;
- produce industrial goods and agricultural products based on suitable technologies and modern management methods;
- assess the technical and economic merits of technologies being considered for use in the country;
- prepare and monitor implementation of economic, trade, industrial, agricultural, health, education, environmental, and other policies that have technical dimensions or that influence the acquisition and use of technical resources;
- develop, manage, and disseminate information of importance for all aspects of development;
- participate in international trade negotiations, environmental treaty discussions, and other types of dialogues involving technical issues that are of political, economic, and social importance;
- conduct programs that heighten public awareness of the potential of modern technologies to improve the well being of the public; and
- develop an appropriate physical infrastructure, the manpower base, and educational and training institutions to support the foregoing activities.

To support these activities USAID should have S&T capabilities to:

- assess the S&T capacity of developing countries and design programs that contribute to the development and maintenance of this capacity;
- evaluate available technologies and encourage development of emerging technologies that are relevant to USAID's interests;
- incorporate technologies, research findings, and modern management methods in USAID projects while facilitating the transfer of these methods and technologies to developing countries;

- design, manage, and evaluate programs involving technical issues;
- participate effectively in interagency and international negotiations and discussions involving scientific issues relevant to developing countries;
- support and coordinate US government S&T activities relevant to its development objectives; and
- recruit and retain personnel capable of supporting the foregoing activities.

USAID has valuable experience with each of these activities. Indeed, the agency has a long history of international leadership in mobilizing technical expertise and related resources to promote development. Since the 1960s, USAID has been in the forefront in institution building—for example, in supporting the establishment of high quality technical universities; hospitals, clinics, and medical research centers; and agricultural research and extension organizations.

The agency's recent S&T work has greatly improved public health and prospects for economic growth in developing countries. For example:

- Reducing child mortality: The original and improved formulations of oral rehydration salts have been responsible for dramatic decreases in the length and severity of acute diarrhea, a leading cause of child mortality.
- Promoting successful agriculture: Research to reduce the effects of the parasitic witchweed striga, which affects sorghum crops in most of Africa, has led to the development of striga-resistant seeds, now being distributed throughout the continent.
- Enhancing good governance: In Namibia, a USAID partnership with Microsoft and Compaq has developed effective e-government services and dramatically enhanced civil participation in parliamentary affairs.
- Improving quality of life through infrastructure development: Last winter, the first engineering design and construction phase of the Kabul to Kandahar highway was completed, employing 2000 Afghan workers and providing improved access to markets, health care, schools, and jobs.

In short, the agency has repeatedly demonstrated how S&T can contribute to development at the global, regional, and local levels. Still, much more can be done and USAID should build on its past record. As successes are recorded, there will be greater appreciation within the U.S. Congress and by the U.S. public of USAID's achievements.

The world is changing, and new contextual challenges for international development are unfolding with unprecedented speed. Globalization requires developing countries to enter unfamiliar arenas—for example, membership in the World Trade Organization, participation in new global health initiatives, and confronting international terrorists who seek safe havens in both urban and remote areas. Now, more than ever before, in almost all countries there are clusters of well trained managers and S&T specialists who provide important starting points for building the needed capabilities in these and other areas.

Similarly, approaches to foreign assistance are changing, with S&T playing an ever larger role in the portfolios of many donor countries. At the same time, there is no single model for building

S&T capacity, and USAID's country-specific approaches will depend at least in part on whether USAID classifies the countries of interest as fragile states, transformational states, or threshold states—categories determined to a considerable extent by different economic characteristics as well as by political orientation. But whatever the level of development of the country, technical capabilities are not high value assets when they stand alone. Only when effectively integrated with specific economic and social sectors, including the education sector, can they have a significant impact on development.

Changing Roles of USAID and of Other U.S. Department and Agencies

As you well know, in recent years many other U.S. departments and agencies have broadened their global interests and many now have substantial financial resources as well as enormous technical capabilities to pursue S&T interests in countries where USAID also operates. Some organizations such as the Centers for Disease Control and Prevention, the Department of Agriculture, the National Institutes of Health, and the Environmental Protection Agency have long had interests in developing countries, frequently serving as the organizations responsible for implementing USAID-financed programs but at other times using their own financial resources to pursue their own interests. Of special importance is the expanding role of the Department of State in the funding and management of many international programs involving S&T (e.g., AIDS, refugee affairs, humanitarian assistance, economic support programs, and activities in the former Soviet Union). Also of considerable relevance to USAID's future efforts is the increasingly active interest of the Department of Defense in reconstruction and the development of crucial infrastructure, not only in war-torn countries but also in other developing countries, with engineering activities high on the Department's priority list.

Each of the many U.S. organizations now managing international development programs based on S&T should play an important role that benefits both developing countries and the United States. However, the Committee is concerned that in some instances the increasing number of agencies could adversely impact the overall effectiveness of U.S. foreign assistance. New activities, such as the HIV/AIDS programs of the Department of State, could in the absence of adequate coordination inadvertently degrade USAID's ability to continue its leadership role in international development. Furthermore, the increasing dispersal of overseas responsibilities could undermine USAID's stature in the field and could lead to unnecessary bureaucratic confusion on the part of the countries it serves. The challenge for USAID and for the entire U.S. government is to more effectively combine USAID's focus on and experience in international development with the strong technological resources of the domestic agencies whose missions are more directly U.S. oriented.

The S&T resources of many other government organizations are formidable. But none of these organizations can match the overseas field presence of USAID nor the experience of USAID in relating S&T achievements to the on-the-ground needs and to the absorptive capacity of developing countries. None have comparable rapport with pertinent leaders in so many developing countries, a fact of great importance when attempting to introduce modern concepts and technologies that may challenge well engrained traditions. USAID's understanding of local knowledge, competence, and cultural values engenders a level of respect and trust with local counterparts unique amongst U.S. government agencies.

As the U.S. Government increases its interests in developing countries, each department and agency will be staking out its interests. Some will be looking to USAID only for supplementary funding, unaware of USAID's other assets. In the field, USAID should aggressively help the American ambassadors appreciate the complexity of international development and should ensure that programs reinforce one another and do not become competitors.

Effective USAID representation during interagency discussions in Washington is crucial if the agency is to remain the nation's advocate for international development. Strong internal competence in S&T should help ensure USAID a seat at the table when important Presidential initiatives and program decisions are considered. The Committee is considering new mechanisms to strengthen USAID's role in the coordination and integration of S&T activities which focus on development issues as well as addressing the importance of strengthening USAID's internal S&T capacity. A mechanism --- probably involving both the National Security Council and the Office of Science and Technology Policy - to look broadly at opportunities for S&T to respond to development needs and to effectively link science and technology with US security and foreign policy interests is clearly needed. With its development perspective and its personnel assets, USAID could use this mechanism to encourage, guide and collaborate with other U.S. government entities with programs in developing countries to pursue their domestically driven missions in ways that will make significant contributions to international development as well.

The new Millennium Challenge Corporation holds great promise as a streamlined approach to providing foreign assistance. We anticipate that some of the initial 16 participating governments will include activities that take advantage of S&T in their proposals to the Corporation. USAID's extensive experience and implementation capacity should be of great assistance to the Corporation. We are confident that in your role as a board member you will be able to ensure that the two organizations work closely together.

We share your concern that despite recent dramatic increases in the budget managed by USAID, Congressional earmarks and Administration initiatives limit the discretionary portion of the agency's budget. As a result, mission directors and program managers in the central bureaus are severely constrained in pursuing important new and innovative projects building on developments in science and technology. Nonetheless, the benefits of successful applications of S&T are so great that USAID should encourage and devote resources to innovation throughout its programs.

Revitalizing the S&T Capacity of USAID

S&T Leadership within USAID: Senior officials in USAID should be encouraged to recognize and champion S&T as an important but underutilized asset in meeting the agency's long-term strategic goals as well as short-term project objectives. Recent legislative initiatives have called for a stronger U.S. role in nation-building. USAID should play a significant part in this effort, and S&T capabilities will be important in carrying it out. Thus, drawing on S&T should be clearly recognized as an integral part of USAID's effort to stimulate global prosperity and stability that directly benefit the United States.

At the same time, a strong, broad-gauged central staff with direct access to the leadership of the agency and to S&T leaders within other government organizations and the nongovernmental community could provide important reinforcement of the efforts of managers and advocates of S&T activities throughout the agency. Such a staff could help ensure that the agency is effectively represented at interagency and international discussions involving technical issues. Also, it could provide an important point for introduction and assessment of new concepts and technologies that might be appropriate for incorporation into the agency's program development processes.

The NRC Committee is considering how such a staff might be best positioned within the agency. The Committee is reviewing the agency's past experience with a Science Adviser, a Bureau dedicated to Science and Technology, and other organizational arrangements. As an example of the approaches being considered, the Science and Technology Adviser to the Secretary of State might be assigned a second responsibility to serve concurrently as the Science Adviser to the USAID Administrator. The double-hatted Science Adviser might have two Deputies—one focused on State and one focused on USAID.

To ensure that the internal and external influence of the Science Adviser is substantial, it would be essential that the Science Adviser, while not a line manager, have authority (a) to direct financial resources to high priority activities that could take advantage of U.S. S&T capabilities, (b) to convene advisory groups, and (c) to organize short-term specialized training for USAID personnel with S&T responsibilities in the field and in Washington. This approach would recognize the increased integration of State and USAID policies as well as add stature and influence to the role of the Science Adviser in the inter-agency process.

This central staff would not take the place of technical specialists working on key sectoral issues such as health, education, energy, or agriculture. USAID's sectoral technical staffs must continue to play lead roles within the agency and more broadly in US and international S&T networks. They are the key to the development of new programs and policy approaches that take advantage of S&T strengths and shape USAID's research activities.

Strategic Planning: Several USAID strategy documents are currently in various stages of development. The Committee notes that there is little recognition in these documents of the importance of S&T as an integral component of activities in many development sectors. Since these documents are widely distributed throughout the agency and provide an important conceptual framework for programs, they should at least acknowledge that S&T are critical components of programs needed to achieve many of the objectives set forth in the documents. For example, achievement of almost every objective in the *State-AID Strategic Plan 2004-2009*, August 2003, requires effective use of the S&T resources of the United States, yet this requirement is not acknowledged. The USAID *White Paper, U.S. Foreign AID, Meeting the Challenges of the Twenty-first Century*, January 2004, also calls for activities that will depend on strong S&T underpinnings, but the importance of S&T capacity within USAID and within developing countries is not recognized. In the absence of explicit mention of the importance of S&T capacity in developing countries and within USAID, the agency's programs are unlikely to be designed to take full advantage of one of the nation's strongest assets.

Personnel: Despite the rapid growth of USAID's programs during the past several years and the concomitant opportunities to expand the agency's use of the S&T wherewithal of the United States, the agency's S&T capacity continues its downward slide that began fifteen years ago. The essence of the problem is the shrinking of its direct-hire technical staff, both in the field and in Washington. These are the core communicators, the innovators, and the program managers. They are the experts who determine how technologies can be adapted to poverty settings. For example, according to USAID officials, the number of technical personnel working on agricultural issues decreased from 248 in September 1985 to 66 as of June 2004. Declines in technical staff competencies are also evident in education and energy. Overall the loss of expertise and of institutional memory has been dramatic.

In the absence of corrective actions by Congress and the Administration to authorize a significant number of new direct hires with technical skills, this downward trend will continue as the limited number of remaining technical specialists retires. Of course, the skills of new hires should be matched with priority areas. Also new hires should be offered career tracks that provide promotion opportunities in technical fields (e.g., exempt Civil Service positions). At the same time enhancing the capability of existing staff through training and access to new technologies should move forward apace. In the absence of a stronger cadre of direct-hire specialists who participate directly in internal decisions of the agency, it will be extremely difficult to introduce innovative programs that utilize modern technology as a key element of development or to adequately represent the agency in its increasing interactions with specialists from other government organizations as discussed above.

The agency has become largely dependent for technical expertise on detailees from other government organizations, contractor personnel, Fellows provided by the American Association for the Advancement of Sciences, and other innovative arrangements. In a number of areas, these arrangements are providing good support. But currently the specialists in these positions have little opportunity for recognition or career advancement. Sometimes they are hired by USAID and this is a positive development. In other cases, USAID should encourage the organizations that employ the detailees to provide them with greater career advancement opportunities.

Capacity Building in Developing Countries: Another major concern of the Committee is the overriding emphasis of the agency on short-term projects which are designed to produce near-term results. The rationale within USAID for this shift to short-term projects during the past decade has been portrayed to the Committee as the necessity for USAID to comply with the Government Performance and Results Act (GPRA) which requires all government departments and agencies to document each year the payoffs from their expenditures. This concern apparently has discouraged both USAID missions and central offices from developing projects to strengthen local S&T capacity which might require five to ten years, or longer, to achieve. The focus on short-term projects has also meant that sustained commitments focused on specific development problems have been discouraged. For example, in the current climate it would be difficult to sustain a set of long-term activities such as those successful efforts to improve food security in Bangladesh. Continued long-term support for the development of human capacity is absolutely essential to sustainable development. The agency's S&T agenda should focus on efforts to

bolster the capacity of the public and private sectors in developing countries to absorb and utilize S&T, a goal that requires sustained support over a number of years.

In the past, long-term capacity-building efforts had been hallmarks of USAID programs. They depended in significant measure on developing country trainees receiving advanced degrees in the United States, and the decline of long-term trainees in recent years has been precipitous. The number has declined from 11,000 per year in 1990 to 1400 per year at present. Of course training must be germane to the conditions in the trainees' home country. The damage to the ability of the U.S. Government to utilize one of its greatest comparative advantages in international development has been significant indeed. Also, the opportunities for American specialists to become experts in the problems of the developing world have declined. While it may not be possible to revert to previous approaches to long-term training in the United States for security and budgetary reasons, greater use of regional facilities collocated with selected developing country educational institutions might be an attractive alternative.

As the National Academies have demonstrated in recent reports concerning the application of GPRA to research programs in other federal agencies, long-term research investments can be effectively assessed within the GPRA framework. Results can be demonstrated through methodologies utilizing objective criteria of quality, relevance, and performance. We plan to consult with OMB on the application of GPRA and the related Performance Assessment Rating Tool (PART) to capacity building activities of USAID. We suggest that USAID also explore this issue with OMB.

S&T Advisory Mechanisms: The agency has developed a number of mechanisms for drawing on external S&T capabilities to help ensure the integrity of its programs and the Committee will be further exploring the effectiveness of these mechanisms. One initial concern is the apparent reliance of some USAID offices on the contractors and other federal agencies that implement programs to also provide the scientific review mechanisms for the programs. The Committee is considering mechanisms that USAID could use to provide independent S&T advice. As you know, the Board for International Food and Agricultural Development (BIFAD) is one model providing both scientific and policy advice. The Advisory Committee on Voluntary Foreign Aid is another approach although there are few members with strong S&T capabilities. Of particular interest are the approaches used by other government departments and agencies such as the Science Advisory Board of the Environmental Protection Agency.

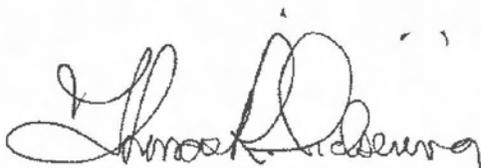
Support of Research: As other U.S. government organizations with strong programs in research expand their international activities (e.g., the National Institutes of Health), USAID should carefully review its role with regard to research programs carried out in the United States and developing countries. There may be important research challenges which only USAID is interested in supporting, but other areas which have received USAID funds in the past may now be more appropriate for support from other organizations. At the same time, USAID should give increased attention to building research capacity in developing countries, recognizing that such capacity is more likely to be in applied research and engineering rather than in basic research. The Committee will be giving considerable attention to these issues in the months ahead.

Evaluation and Articulation of Lessons Learned: Unfortunately, during the past few years USAID's broad program of evaluation has eroded considerably. Many development challenges will remain for decades, and the unique experience of USAID in addressing them needs to be mined for valuable lessons. A revival of senior-level interest in evaluation is essential, particularly with regard to past S&T activities which may have been complicated and risky to undertake but which have returned significant dividends.

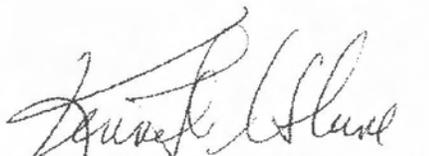
As we have noted, during the next several months, the Committee will be consulting with a variety of organizations and individual specialists at home and abroad to complete our assessment of the role of S&T in foreign assistance. We plan to pay special attention to the international programs of other U.S. agencies and to examine how the U.S. can most effectively assist in strengthening local S&T capacity. We realize how highly other countries value U.S. S&T achievements and how politically important S&T cooperation can be in building bridges around the world. At the same time, we will continue to focus our efforts on the social and economic payoff from integrating S&T more fully into USAID's development programs.

In order to help ensure that we are concentrating on issues that you consider to be of greatest importance, we would appreciate the opportunity to discuss with you at your earliest convenience both the suggestions set forth in this letter and our agenda for the remainder of the study.

Sincerely,



Thomas R. Pickering, Co-Chair



Kenneth I. Shine, Co-Chair

Committee on Science and Technology in Foreign Assistance

Attachment A

Science and Technology in Foreign Assistance Statement of Task

A Committee of the National Research Council (NRC) will assess new opportunities for the U.S. Agency for International Development (USAID) and its partners to draw on the science, engineering, and medical resources of the nation in designing and carrying out foreign assistance programs. The assessment will recommend steps that USAID should consider in enhancing its capabilities to use these resources for addressing the challenges of international development in the years ahead. Among the recent developments of interest to USAID that will be considered are (a) the expanding science and technology interests of the Department of State and their relationship to the activities of USAID, (b) the role of the Millennium Challenge Account (MCA), and (c) the establishment of partnerships that link USAID with international, regional, U.S. governmental, and private sector foundations and other organizations in carrying out programs in fields such as health care, agriculture and nutrition, energy, and the environment and in cross cutting areas such as education and job creation.

Studies of the experience of a large number of developing countries have repeatedly underscored the importance of science and technology capacity as an essential ingredient of sustainable development, and reliance on American experience and expertise in fostering such capacity has long been a major focus of USAID. Experience has shown, for example, that coupling research capacity with education can help countries develop and adopt new technologies which serve as the cornerstones of economic growth.

This project will examine selected aspects of USAID's activities that have benefited or could benefit from access to strong science, technology, and medical capabilities. The activities to be considered, while only a portion of the large number of relevant programs and projects, will span the full range of development assistance, humanitarian assistance, and economic support. As noted above, of special importance are programs in fields such as health care, agriculture and nutrition, energy, and the environment. Cutting across these sectors are programs directed to education and job creation as well as the strengthening of enabling technologies in areas such as information and communications.

While the amount of USAID funding related to science and technology is a small portion of its total budget it is still quite substantial. In addition, USAID funds help leverage billions of foreign assistance dollars from other donors and some of them are also committed to science and technology capacity building. Many American organizations participating in USAID programs augment USAID funds with their own resources, and NGOs and other organizations that conduct their own assistance programs depend on USAID for advice and logistics support.

Attachment B

Committee on Science and Technology in Foreign Assistance

Thomas R. Pickering (co-chair) is Senior Vice President for International Relations at the Boeing Company. Previously, he was Under Secretary of State for Political Affairs. He served as U.S. Ambassador to Russia, India, Israel, El Salvador, Nigeria, and Jordan. From 1989-1992, he was the U.S. representative to the United Nations.

Kenneth I. Shine (co-chair) is Executive Vice Chancellor for Health Affairs of the University of Texas System. He served as President of the Institute of Medicine (IOM) from 1992-2002. Before coming to the IOM, he was Dean and Provost for Medical Sciences at UCLA.

Barry Bloom is Dean of the School of Public Health and Professor of Immunology and Infectious Diseases at Harvard University. He has been extensively involved with the World Health Organization (WHO) and is a member of the WHO Global Advisory Committee on Health Research.

Owen Cylke is currently at the World Wildlife Fund. He previously served at the U.S. Agency for International Development as Deputy Assistant Administrator for Food and Voluntary Assistance, Director of the USAID Mission to India, and Deputy Director of the USAID Missions in Egypt and Afghanistan.

Lee H. Hamilton is the Director of the Woodrow Wilson International Center for Scholars. He is also vice-chair of the 9/11 Commission. He served for thirty-four years as a Congressman from Indiana and was Chairman of the House Committee on International Relations.

Susanna Hecht is a Professor of Urban Planning and Associate Director of UCLA's Latin American Center. She also serves on the Board of the Institute for Development Studies at UC Berkeley. She has written widely on international environmental agreements and their contradictions in developing countries.

Susan Henry is Dean of the College of Agriculture and Life Sciences and Professor of Molecular Biology and Genetics at Cornell University. From 1991-2000, she was Dean of the Carnegie Mellon College of Science.

W. David Hopper is a consultant on agricultural economics. He served as Vice President for the South Asia region and as Senior Vice President of Policy, Planning, and Research at the World Bank from 1978-1990. He was the first president of the International Development Research Centre in Canada.

Michael Rock is Chair of the Department of Economics at Bryn Mawr College. Most recently he was Chair of the Department of Economics at Hood College. He previously worked as a senior economist at Winrock International Institute for Agricultural Development and in several senior positions at the U.S. Agency for International Development.

Allan Rosenfield is Dean of the Columbia University School of Public Health and Professor of Obstetrics-Gynecology and Public Health. He is currently chairman of the New York State Department of Health AIDS Advisory Council and President-elect of the Association of Schools of Public Health.

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