

# Network Newsletter: Science and Technology for Sustainability Summer 2002

[Forum Home](#) | [Network Home](#) | [Network Members](#) | [Network Projects](#)

---

## *Welcome to the Network!*

Welcome to the Network for Science and Technology for Sustainability! As a member of the Network, you join a community linking the disparate scholars, managers, and decision makers working on science and technology for sustainability. This is the first issue of the Network newsletter, a publication especially for Network members that shares information about subjects of interest to Network members.

The Network now includes 118 members from 29 different countries. Countries

represented in the Network include Argentina, Canada, Ethiopia, Germany, India, Italy, Madagascar, Malaysia, Nigeria, Portugal, the United States, and Zimbabwe, among several others. The Network is growing rapidly.

We hope that Network members will keep their Forum pages up-to-date by periodically checking their bios and by submitting additional projects with which they are involved to supplement their Network listings.

---

## *News in Brief*

Among the items recently posted on the Forum on Science and Technology for Sustainability are:

- A new essay by David Cash (Harvard University, USA), William Clark (Harvard University, USA), Jill Jaeger (International Human Dimensions Programme, Germany), and Frank Alcock (Harvard University, USA). In their short essay, Cash et al. address how today's relatively independent activities of research planning, observation, assessment, and decision support can be better integrated into systems for adaptive management and societal learning.
- Two new pages of resources relevant to Core Questions of S&T for Sustainability on Vulnerability and Resilience and Institutions, respectively. As part of our recent redesign of the page on the Forum that introduces "Core Questions" of Science and Technology for Sustainability, each of the seven questions will soon have an essay describing the question, as well as a page of resources (key resources, activities, extended bibliography, etc.) useful to those interested in the topic.

New documents, events, programs, and resources are added to the Forum frequently. For updates, please see our quarterly email newsletter, which is sent to all Network members.

<http://sustainabilityscience.org>

### **In this issue:**

**Interview with Bob Kates, Co-Convener, Initiative on Science and Technology for Sustainability.....page 2**

**Featured Network Project: Initiative on Science and Technology for Sustainability.....page 3**

## *Questions and Answers about Sustainability Science: An Interview with Bob Kates*

*What is Science and Technology for Sustainability? In an interview for the Network Newsletter, Bob Kates, Co-Convener of the Initiative on Science and Technology for Sustainability, answers some common questions about scientific activities in this area.*

### **Forum: Is "sustainability science" a new concept? Is it different from current scientific activities?**

**Kates:** In our article in *Science* (Kates et al., 2001, "Sustainability Science"), we wrote:

"A new field of sustainability science is emerging that seeks to understand the fundamental character of interactions between nature and society."

If I were writing the article today, I would not call sustainability science a "new field," as there is evidence of good work that is genuine sustainability science (as we would define it) that is ongoing and in some senses has gone on for many years. Nor would I probably call it "sustainability science," and indeed the Initiative on the subject for which I serve as co-convener is for "Science and Technology for Sustainability."

Yet, I would argue that there is much that is new and different here. Science and technology for sustainability is new in that it aspires to bring together both sciences of environment and development to address a sustainability transition that would meet human needs while

preserving the life support systems of the planet. This is a difficult task, and all of us are very humble as to knowing just how to bring these two dimensions of environment and development together without favoring either or being so general that we can't do science.

### **Forum: What is "sustainability science"? How would I recognize it?**

**Kates:** The first key to recognizing sustainability science is to ask whether the purported science addresses the interactions between nature and society. Sustainability science and technology is neither just good environmental science and technology nor just good developmental science and technology. Thus for the most part it is not genetic engineering to increase food production, for example (which some would describe as an eminently sustainable activity, others not); or fusion energy (as a solution to the energy crisis). These have been going on for a long time. Nor is it just about enhancing the scientific capacities of developing countries so that they can exercise the appropriate level of environmental responsibility in their development plans, for this is equating environmental concern with sustainability and ignoring the issue of how to meet the social and economic needs of those living in developing countries.

### **Forum: What needs to happen now in sustainability science and technology?**

**Kates:** First, a research agenda. In the *Science* article, and on the Forum's web site, we set out a series of core scientific questions, and summarize sources of existing work in our supplementary material. But because this is a first attempt, these core questions are currently being reviewed in five

meetings taking place in developing and developed regions.

A regional focus is a second research strategy, using long-term regional studies as laboratories where one can explore complex multi-scale nature-society interactions and anchor these in the realities of real places. Again, there are ample existing efforts in both the environment and development sciences, e.g., the long-term ecological research stations around the world or the long-term health and population studies, but in all of these either nature or society, but not both, is the dominant focus of study.

A third strategy is the need to enlarge capacity to do nature-society science everywhere, but particularly in developing countries—a subset of the need to enlarge capacity to do science and technology in developing countries, but one not met just by

enlarging the overall capacity. Yet, we emphasize the importance of all science and technology in improving living standards and reducing poverty, and that even poor countries can amply benefit from investment in science and technology.

### For more information:

Forum on Science and Technology for Sustainability: <http://sustainabilityscience.org>

Robert Kates et al., 2001, "Sustainability Science," *Science* 292: 641-2.

<http://sustainabilityscience.org/keydocs.htm#sustsci>

Initiative on Science and Technology for Sustainability: <http://sustainabilityscience.org/ists>

---

## *Featured Network Project:* Initiative on S&T for Sustainability

The international **Initiative on Science and Technology for Sustainability (ISTS)** is a direct outgrowth of the renewed interest around the world in devising and implementing knowledge-based strategies for enhancing the quality of human life in ways that limit our collective impact on other life forms and on the planetary environment. It seeks to enhance the contribution of knowledge to environmentally sustainable human development around the world. The Initiative has its origins in a range of activities, but was enhanced substantially by the *FriiBergh Workshop on Sustainability Science* (October 2000). It is based on an evolving vision of "science and technology for sustainability" that is:

- *Anchored in concerns for the human condition*, seeking knowledge and know-how that will help feed, nurture, house, educate, and employ the world's slowing but still growing

human population while conserving its basic life support systems and biodiversity;

- *Essentially integrative*, bridging efforts across the natural, social, and engineering sciences, the environment and development communities, multiple sectors of human activity, geographic and temporal scales and, more generally, the worlds of knowledge and action;

- *Regional and place-based*, focusing at intermediate scales where multiple stresses intersect, where complexity is comprehensible, where integration is possible, where innovation and management happen, and where significant transitions toward sustainability have begun; and

- *Fundamental* in character, addressing the unity of the nature-society system, asking how that interactive system is evolving and can be consciously, if imperfectly, steered through the reflective mobilization and application of appropriate knowledge and know-how.

<http://sustainabilityscience.org>

The Initiative is an open-ended network. Policy is set by an international Steering Group, coordinated by two Co-Conveners (Robert Kates and Akin Mabogunje). A Secretariat based at Harvard University provides day-to-day support for Initiative operations. To date, major funding has come from the David and Lucile Packard Foundation, the U.S. National Oceanic and Atmospheric Administration's Office of Global Programs, and numerous regional institutions.

The Initiative Steering Committee is made up of 16 individuals, all of whom are members of the Network for S&T for Sustainability.

Over the past several months, the Initiative has held a series of five regional workshops (one additional workshop is being planned) around the world to provide more regional insights and perspectives on thematic issues that evolved during the Friibergh Workshop.

The regional workshops on science and technology for sustainability brought together participants for 3 days to create regional science and technology research agendas. The workshops explored scientific questions and research strategies relevant to sustainable development in the region; identified the institutions and infrastructure needed to address these questions

and strategies; identified the means of overcoming the barriers to implementing such an agenda; and identified areas of knowledge where we know enough to inform action, but where that knowledge is not being used. The workshops sought to engage the environment and development communities, the natural and social sciences, multiple sectors of human activity, scholars and practitioners, and those able to enable knowledge and action. Workshops were held in Abuja, Nigeria; Chiang Mai, Thailand; Bonn, Germany; Santiago, Chile; and Ottawa, Canada. More information on the regional workshops can be found in the Events section of the Forum web site.

### **For more information:**

**Initiative on Science and Technology for Sustainability:** <http://sustainabilityscience.org/ists>

**Regional Workshops on Science and Technology for Sustainability**  
<http://sustainabilityscience.org/events.htm#regws>

---

The Network Newsletter is published quarterly by the Forum on Science and Technology for Sustainability (<http://sustainabilityscience.org>), and it is sent via email to all members of the Network for Science and Technology for Sustainability. An electronic version of this newsletter is posted on the Network's home page, <http://sustainabilityscience.org/network.htm>.

Comments on the Newsletter and any other aspects of the Forum are welcome and may be sent to the Managing Editor at [sustscience@ksg.harvard.edu](mailto:sustscience@ksg.harvard.edu).

To join the Network and receive this newsletter by email, you need to complete an application. Applications are available on the web at <http://sustainabilityscience.org/application.htm>. If you have any questions about the application or the Network, please contact the Managing Editor at [sustscience@ksg.harvard.edu](mailto:sustscience@ksg.harvard.edu).