



## The International Science Partnership

### Overview

Science and technology is a key strength of the U.S. both for its transformative potential and for its positive international reputation. The most highly regarded aspect of America, our science and technology (S&T) is widely admired for being of high caliber, its transformative potential, and its focus on desirable attributes such as transparency and merit-based recognition. Especially in regions of the world where U.S. foreign policy, government, and military are highly unpopular, it is critical to leverage the popularity of and respect for American S&T to develop and promote positive relations between governments, institutions, and individuals.

The U.S. government recognizes this reality and has begun acting on the need for science diplomacy through programs such as the Cairo Initiative and the passing of H.R. 1736, the International Science and Technology Cooperation Act of 2009. However, these science diplomacy initiatives have been limited by their focus on traditional partner countries, limited engagement with S&T stakeholders outside of the government and leading universities, and limited U.S. government appropriations. However, S&T engagement is a critical tool to positively engage with nontraditional partner countries. These nations share many critical science and security challenges with the United States and these challenges provide opportunities for America to develop stronger, more diverse, and more stable personal, institutional, and government relationships.

To meet this need for positive S&T engagement, the Federation of American Scientists (FAS) has developed the International Science Partnership (ISP). This program seeks to develop long-term relationships between scientists and engineers, between scientists and stakeholders, and between scientists and government.

The specific goals of the international science partnership are to:

1. Provide opportunities for scientific exchange, knowledge sharing, and career enhancement for early-career scientists who will become the leaders of their field and of their countries;
2. Develop long-term, mutually beneficial S&T relationships and partnerships that engage key stakeholders and bring science and scientists into the policymaking process;
3. Address critical environmental and social security issues by developing sustainable solutions through research, management, information networks, and technology;
4. Enhance the participating countries' social and environmental stability and security.

## **The ISP Pilot**

With funding from the Lounsbery Foundation, the ISP will begin its pilot program in Yemen in June 2011. This long-term, project based partnership will facilitate and support collaborations between 6-7 early-career American and Yemeni scientists and engineers. As both participant countries have considerable expertise in and need for innovative water and electricity solutions, especially in high desert urban environments, the focus of this collaboration will be finding affordable, sustainable solutions for providing reliable water and energy services to urban, water scarce customers.

The project will formally begin with a week-long workshop in Yemen, during which time the scientists will carry out the fieldwork and experimentation necessary for the collaboration, receive training from experts in developing a business plan and long-term research funding strategy, receive basic training in systems modeling, develop a water-energy needs assessment, and visit key sites in Yemen.

It is at this point, the workshop's conclusion, where most existing science diplomacy programs end. Further collaboration depends wholly upon the individual motivation and effort of the scientists as the programs do not include mechanisms encouraging long-term partnership. By contrast, under the ISP model FAS will formalize and support the pilot research project for at least one full year by developing a sustainable project funding plan; hosting virtual participant meetings; facilitating meetings with potential funders; and providing opportunities for training, publicizing work, and publishing.

As the goals of the ISP include developing the skills and careers of younger scientists and facilitating collaboration, participant training will be an essential part of the continuing partnership. Within six months of the initial workshop in Yemen, Yemeni participants will be invited to a week-long systems modeling training. The training will provide participants with the necessary skills to carry out complex water and energy system modeling in Yemen, to apply these skills to the benefit of the joint research project, and to pass on this training to their colleagues in Yemen. In fact, upon returning to Yemen participants will lead a systems modeling seminar for their colleagues, with the goal of building the capacity of the Yemeni water and energy research community and garnering support for the participants' systems modeling work from faculty, government researchers, and students.

## **Expanding the ISP**

FAS envisions the ISP as a broad science engagement program with the objective of bringing together scientists from the U.S. and developing countries through long-term projects, partnerships, and stakeholder engagement and outreach. Project areas within the ISP will include: scientist and stakeholder partnerships, improving S&T community communications, capacity building, and training.

Within the first three years, FAS plans to expand the ISP to include projects in Yemen on energy, resource management, biodiversity and land use, biosecurity, agriculture, and building technologies—all critical issues identified by Yemeni and U.S. scientists. FAS will also work with Yemeni scientists and funding partners to develop digital information and resource sharing networks, set up resource management and monitoring workshops to engage tribal and political stakeholders and share management best practices, and enhance the role of science in domestic policymaking. Simultaneously, FAS will seek to expand the ISP to other regional partners, including Syria and Iran.