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# EDITORIAL

## Lessons from the EPSCoR States

Federal funds for research are presently targeted for reduction. At the same time, the U.S. scientific community is viewed as detached from the people who pay its bills—Congress, state legislators, and, ultimately, the public. These facts make it apparent that scientists need to more directly involve people at all levels of public leadership in the scientific enterprise. The attitude that “someone else will do it” will no longer suffice. If the enterprise is to remain strong, new methods of acquiring public support for science are needed.

A little-recognized program called EPSCoR (Experimental Program to Stimulate Competitive Research), begun by the National Science Foundation (NSF) in 1980, has devised a model that may work for the entire country. The program had its beginnings in Congress's realization that 18 states (some of the nation's poorest) and Puerto Rico receive only about 4% of the annual federal R&D investment but have nearly 20% of the U.S. population. (The states are Alabama, Arkansas, Idaho, Kansas, Kentucky, Louisiana, Maine, Mississippi, Montana, Nebraska, Nevada, North Dakota, Oklahoma, South Carolina, South Dakota, Vermont, West Virginia, and Wyoming.) EPSCoR was created to increase the competitive research base, build the scientific infrastructure, and improve the technology enterprise in those states. Each NSF dollar allocated is given on a competitive peer- or merit-reviewed basis and requires a matching state or private dollar.

Because of the way EPSCoR is organized, including the matching fund requirement, public support for the program seems to flourish. State legislators are regularly advised of EPSCoR's progress in their state, and EPSCoR representatives, individually and as a group, hold regular scientific update meetings with federal Congresspeople and legislative assistants. Also, because of the federal-state partnership in the funding process, governors, legislators, company representatives, and state EPSCoR committees ensure that some of the science being done is connected with state and community needs and that the remainder meets longer term goals. Those needs are generally synonymous with national needs, such as increased numbers of high-tech jobs, greater access by students to better education and research experiences, and technological diversification away from a traditional reliance on natural resources and extractive industries. In addition to periodic external panel reviews of EPSCoR projects by experts in relevant disciplines, assessment is done by independent organizations such as the COSMOS Corporation of Bethesda, Maryland, and the AAAS; Quantum Research Corporation (also of Bethesda) gathers quantitative information on the programs of each state.

Fundamental scientific discoveries have been made under the auspices of EPSCoR projects. Those discoveries are serving the needs of the states, and some have had national and international impacts. Specific examples are Maw Kuen Wu's participation in the discovery of high-temperature superconductivity while at the University of Alabama and Jack Horner's remarkable discoveries at Montana State University concerning dinosaur behavior, which helped inspire the story of Jurassic Park and promote a local dinosaur tourism industry. Overall, EPSCoR has had a nationwide impact by increasing the competitiveness of scientists. This is seen most clearly in the fact that since the program's inception, the EPSCoR states have doubled their share of NSF funding (not including the funds that NSF specifically allocates to support EPSCoR).

Each of the seven major federal agencies that grant funds for research (the National Institutes of Health, U.S. Department of Agriculture, Department of Energy, Department of Defense, Environmental Protection Agency, NASA, and NSF) has now established its own EPSCoR program (although some are more committed than others). The people involved in EPSCoR seem to have devised a system that is well organized and has strong momentum. Its success is the result of a simple formula: research whose value can be justified to the public, carried out by researchers and organizations that take the time to keep the public informed and involved. Our nation's scientists need to convince all sectors of the public of the importance of basic research. EPSCoR's successes can teach some important lessons about how to do so.

Gary A. Strobel

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