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Education and Human Resources in the FY 2001 Budget

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INTRODUCTION

Education and innovations in science, mathematics, engineering and technology (SMET) remain a priority in the FY 2001 budget request. Significant funding for programs directed toward raising the numbers of students attending and completing college, as well as funding for quality pre-school and after-school programs, teacher professional development, and investments in schools are some examples.

This chapter provides an analysis of education R&D and education and human resources (EHR) programs with a SMET focus. Below are several highlights:

- The Interagency Education Research Initiative (IERI) requests \$50 million, a \$12 million increase above the FY 2000 level. IERI is a Department of Education (ED; \$20 million), National Science Foundation (NSF; \$25 million) and National Institutes of Health's (NIH) National Institute of Child Health and Human Development (NICHD; \$5 million) effort to support research to improve student learning and the development and promotion of the use of best practices in the nation's schools.
- The President's FY 2001 budget request enhances university-based research, with a proposal of \$17.8 billion (primarily across NSF, NIH, and the Department of Defense), an increase of \$1.3 billion over the FY 2000 level.
- Technology continues to be a priority within the Department of

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Education's FY 2001 budget request, with \$150 million for Preparing Tomorrow's Teachers to Use Technology; \$450 million for the Technology Literacy Challenge Fund; and \$170 million for Next Generation Technology Innovation.

- \$28 million in new funding is requested by the Department of Commerce to provide assistance to Historically Black Colleges and Universities (HBCUs), Hispanic-Serving Institutions, and Tribal Colleges and Universities (TCUs).
- Within the United States Department of Agriculture (USDA) an increase of \$1 million is proposed for a new competitively awarded International Science and Education Grants program.

NATIONAL SCIENCE FOUNDATION (NSF)

NSF's overall budget request for FY 2001 is \$4.6 billion, an increase of \$675 million, or 17.3 percent, over FY 2000 (see Table II-7). Not included in this request are the monies transferred to NSF from the Department of Justice from H-1B Nonimmigrant Petitioner Fees, an amount estimated to be \$31 million for FY 2001.

NSF funds programs devoted to basic research and education across all levels and all fields of science and engineering—providing support to close to 200,000 people, including teachers, students, researchers, post doctorates, and trainees. A vast majority of SMET education programs are funded through the Education and Human Resources (EHR) appropriation. However, there are many education partnerships between EHR and the Research and Related Activities (R&RA) directorates—with all directorates focusing on the importance of people. All NSF divisions award research grants that provide support for researchers and students. Additionally, NSF divisions support postdoctoral researchers, trainees, and students. For NSF education programs across all divisions, the FY 2001 budget request increases by 11 percent to \$880 million.

- Some NSF education highlights include: \$20 million for the new Centers for Learning and Teaching program, an increase of \$14 million over the FY 2000 pilot program; \$237 million, an increase of \$48 million over FY 2000, for programs to improve

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undergraduate education; \$27 million for the Louis Stokes Alliance for Minority Participation, a slight increase over the FY 2000 level; and \$301 million for graduate and professional programs, an increase of close to \$44 million over FY 2000.

DEPARTMENT OF EDUCATION (ED)

ED is requesting \$40.1 billion in discretionary appropriations for FY 2001, an increase of \$4.5 billion or 12.6 percent over the FY 2000 level. As Secretary Riley noted in his budget remarks, this is the largest jump in discretionary spending in the history of ED. Since 1996, ED's discretionary spending has risen by more than 50 percent—from \$23 billion four years ago to \$35.6 billion in FY 2000. In earlier years, there was a focus on challenging academic standards. Now, the focus is on enabling all students to meet these standards, requiring states and school districts to align their curricula, pedagogy, and professional development with the academic standards. At the same time, school student populations are increasing and school facilities need improvements.

ED's FY 2001 budget request shows a continued emphasis on Title I programs with a \$9.1 billion request for Title I, including close to \$8.4 billion for grants for local education agencies. \$1.8 billion is requested for the third year of the class reduction initiative, an initiative to hire 100,000 teachers over seven years in order to reduce early grades' class sizes. The FY 2001 request will bring the number of teachers hired to approximately 49,000. \$1 billion is requested for the new Title II program, a component of the Elementary and Secondary Education Act reauthorization proposal, which consolidates Goals 2000 and the Eisenhower Professional Development Programs.

For postsecondary education, ED requests \$40 million for a new dual degree program for minority-serving institutions. This program would provide grants to minority-serving institutions and research universities to enable students at Hispanic-Serving institutions, Historically Black Colleges and Universities (HBCUs), and Tribal Colleges and Universities (TCUs) to earn dual degrees in five years. Students would earn a bachelor's or master's degree in a field in which the student's racial or ethnic group is underrepresented. Student financial aid available through ED would rise to \$54.2 billion, a 5.5 percent increase over the FY 2000

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level; and the maximum Pell Grant award would be \$3,500, an increase of \$200. The TRIO program would receive \$725 million, an \$80 million increase, and GEAR-UP, the early intervention program, would receive \$325 million, a \$125 million increase. This amount would help an additional 644,000 low-income students obtain the needed skills and encouragement to increase their academic achievement as well as prepare for college.

The FY 2001 budget includes \$6.4 billion for the Individuals with Disabilities Education Act (IDEA), an increase of \$333 million or 5.5 percent over the FY 2000 level. Through IDEA, ED works with states to ensure that all children with disabilities receive a free, appropriate public education that prepares them for employment and independent living. IDEA also requires schools to be held accountable for the educational results of children in special education.

The FY 2001 budget includes a request of more than \$800 million in increases targeted toward Hispanic Americans and \$116 million, an increase of 50 percent, for Indian Education programs.

Highlights of several programs with an SMET focus include: \$150 million, double the FY 2000 level, for Preparing Tomorrow's Teachers to Use Technology; \$450 million for the Technology Literacy Challenge Fund, a \$25 million increase over the FY 2000 level, to help schools integrate technology into the curriculum as well as ensure that teachers in high-poverty communities can use technology effectively; \$170 million for Next Generation Technology Innovation, a program that replaces and builds upon the Technology Innovation Challenge Grants and the Star Schools programs; \$100 million for Community Technology Centers, an increase of \$68 million over the FY 2000 level; \$30 million, an increase of close to \$7 million, for the Learning Anytime Anywhere Partnerships, which supports access to postsecondary education for underserved populations via the use of technology; and \$15 million for the Eisenhower Regional Mathematics and Science Education Consortia, the same amount as FY 2000.

The Office of Educational Research and Improvement (OERI) budget request for FY 2001 is \$746 million, a decrease of \$79 million from the FY 2000 appropriation. This decrease reflects the large number of one-

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year projects earmarked in FY 2000 appropriations that no longer require funding in 2001. The request reflects significant increases for activities that support OERI's mission, such as a \$30 million increase for R&D and dissemination on education reform.

U.S. DEPARTMENT OF AGRICULTURE (USDA)

Table 1. Cooperative State Research, Education, and Extension Service Education-Related Programs (Dollars in Thousands)

	FY 1999 Actual	FY2000 Estimate	FY 2001 Request
Higher Education			
Institution Challenge Grants	4,350	4,350	6,000
Graduate Fellowships Grants	3,000	3,000	5,000
Multicultural Scholars Program	1,000	1,000	2,000
Hispanic Education Partnership Grants	2,850	2,850	3,500
1994 Competitive Research Grants	0	500	1,000
1890 Capacity Building Grants	9,200	9,200	9,500
Tribal Colleges Edu. Equity Grants	1,552	1,552	1,552
Native American Instit. Fund	4,600	4,600	7,100
Interest on the Endowment	674	981	1,380
International Sci. and Edu. Grants	0	0	1,000
Agriculture in the Classroom K-12	500	500	500
Secondary/2-year Postsec. Agri. Edu.	500	500	500

USDA provides funding for agricultural research, education, and extension conducted in partnership with the state agricultural experiment stations, state cooperative extension systems, and other institutions. The Cooperative State Research, Education, and Extension Service (CSREES) Higher Education Programs Office was established to provide national leadership and support to promote excellence in food and agricultural sciences higher education. A variety of USDA competitive and formula grant programs provide funds to strengthen the teaching capacity of institutions as well as provide student financial support, such as through faculty and curricula development, and student recruitment and education support, including scholarships, internships, and fellowships. The FY 2001 budget request for CSREES is \$1.1 billion, an increase of 2.1 percent over FY 2000. This includes mandatory funding of \$120 million for the Initiative for Future Agriculture and Food Systems. This initiative provides competitive research, extension and education grants to

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address critical and emerging agriculture issues. (For more information on the Initiative and other USDA R&D programs, please see Chapter 13.)

In FY 2001, funds for higher education programs rise to \$38 million, an increase of close to \$10 million over FY 2000. USDA works with colleges and universities that offer programs in the food and agricultural sciences. In addition, USDA has a special relationship to the land-grant system which includes the 1862 land-grant, the 1890 Historically Black land-grant, and the 1994 Native American land-grant schools. Within CSREES higher education programs are the 1890 capacity building grants for research and teaching at HBCUs designated as land-grant institutions. The total for 1890 capacity building grants is \$9.5 million, a slight increase over the FY 2000 appropriated amount of \$9.2 million. The Institutional Challenge Grants Program and the Graduate Fellowships Grants Programs for FY 2001 have increased by \$3.6 million over the FY 2000 appropriation to \$11 million (please see Table 1). These funds provide support for undergraduate and graduate education programs in the food and agricultural sciences. An increase of \$1 million is proposed for a new competitively awarded International Science and Education Grants program. Funds will be used to support campus-focused initiatives—innovative teaching, research, and extension activities aimed at globalization of colleges and universities—to strengthen U.S. economic competitiveness and to promote international market development for U.S. agriculture.

The FY 2001 request for the Tribal Colleges Endowment Fund is \$7.1 million, an increase of \$2.5 million. Interest earned from the endowment may be used to support facilities infrastructure enhancement at the 1994 institutions. In addition to the endowment, these 31 colleges will receive \$1.5 million (about \$50,000 per institution) to support education programs via the Tribal Colleges Education Equity Grants Program.

By authority of the Smith-Lever 3 (b&c) Formula Act, funding is provided for state agricultural experiment stations for education and technology transfer programs, known as the CSREES Extension programs. (An example would be the 4-H youth development education program.) This is a national educational network for publicly funded, out-of-the-classroom education. The FY 2001 request is \$277 million.

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A total of \$60 million in mandatory funding is included in the FY 2001 budget for the Fund for Rural America. At least \$20 million of this request is expected to be targeted toward research, education and extension grants.

DEPARTMENT OF ENERGY (DOE)

DOE's budget request for FY 2001 is \$18.9 billion, a \$1.6 billion or 9.1 percent increase over FY 2000. Forty percent, or \$7.6 billion of this request represents R&D.

DOE has many SMET education programs, ranging from those targeted toward K-12 students to research dollars appropriated for fellowships and postdoctorates. Of note, most of the money for science education is not directly appropriated for science education, but rather toward research programs. Yet, these research programs contain a science education component. For example, a local high school may tour a DOE laboratory facility, or a DOE scientist(s) may visit a local school, or work on a curriculum package. In FY 2000, \$4.5 million was appropriated for science education. This amount was targeted toward programs such as the DOE Science Bowl. For FY 2001, DOE is increasing the science education request by \$2 million to \$6.5 million. In addition, within the Basic Energy Sciences program is the EPSCoR program targeted at building research capacity in states where few research dollars had been previously invested. In FY 2001, EPSCoR is requesting \$9.5 million; \$3 million would go to educational-type activities directed toward the EPSCoR states (18 states and Puerto Rico).

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

NASA's academic programs cover the elementary through graduate levels and are directed toward students and faculty. Separated into two components—education programs and the minority university research and education program (MUREP)—the total NASA FY 2001 budget request for academic programs is \$100 million, a reduction of close to \$39 million from the FY 2000 budget, of which \$54 million would go to Education programs (down \$31 million) and \$46 million to MUREP (down \$8 million).

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NASA's education programs allow students, teachers, and faculty to experience NASA research firsthand as participants and partners. Its programs include the following: student support programs; teacher/faculty preparation and enhancement programs; support for systemic improvement of education; educational technology; and evaluation. By collaborating with HBCUs and other minority institutions (MIs), including Hispanic-serving institutions and tribal colleges and universities (TCUs), MUREP seeks to enlarge and advance NASA's scientific and technological base. Its goals are to foster R&D activities at MIs that make significant contributions to NASA's mission; create systemic and sustainable change at MIs via partnerships and programs that enhance research and educational outcomes in NASA-related fields; to prepare MI faculty and students to successfully participate in the research and education process; and to increase the number of students served by MIs who successfully pursue and complete degrees in NASA-related fields.

DEPARTMENT OF COMMERCE (DOC)

DOC's FY 2001 budget request is \$5.4 billion, a \$3.1 billion decrease from the FY 2000 budget. \$28 million in new funding is requested—\$17 million in the National Oceanic and Atmospheric Administration (NOAA) and \$11 million in the National Institute of Standards and Technology (NIST)—to provide assistance to HBCUs, Hispanic-Serving Institutions, and Tribal Colleges and Universities. The goals of this new initiative are to expand scientific capacity at these institutions as well as attract more minorities to science fields. NOAA will create three Cooperative Science Centers in oceanic, atmospheric, and environmental fields to form partnerships with MIs, empowering them to compete for federal grant and contract research. A junior area scholarship/fellowship program, which will support the training and eventual employment of MI students, will be established. This scholarship/fellowship program aims to bring its graduates into NOAA. With respect to NIST, a \$3 million investment will be made in MI partnerships, improving access to state-of-the-art facilities and creating opportunities for minorities to produce technical publications and patents. Via the Commerce Student Fellowship Program and the NIST/National Research Council (NRC) Postdoctoral Associates program, an additional 47 fellowships over five years will go to undergraduate, graduate, doctoral, and postdoctoral students. Also, NIST will establish a collaborative metrology training center at an MI.

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Within NOAA, the request for the Sea Grant College Program is \$59 million, a small increase of \$600,000 over FY 2000. The program is a network of 29 individual programs based at universities and marine science institutions nationwide. Also, in FY 2001 NOAA is requesting \$5 million for the GLOBE program, a \$2 million increase over the FY 2000 enacted amount of \$3 million.

For FY 2001 NIST is requesting \$8 million—plus the new \$3 million initiative above—for a total of \$11 million for the NIST postdoctoral fellowship program, a program run jointly with the NRC. This is an increase of 22 postdoctoral fellowships, for a total of 112 postdoctoral positions.

OTHER AGENCY HIGHLIGHTS

Department of Health and Human Services (HHS). The total HHS FY 2001 budget request is 8.3 percent above FY 2000, with a proposed request of \$427.5 billion in budget authority. This includes \$18.8 billion in budget authority for NIH, a \$1 billion increase over last year (see Table II-8).

The total NIH mechanism request for research training for graduate and post graduate students—both individual and institutional awards—is \$564 million to support 15,944 trainees (see Table II-10). The FY 2001 budget request supports approximately the same number of full-time training positions as FY 2000, although program emphasis will shift to provide training in mathematics and computer science among biologists. This shift is due to the Biomedical Information Science and Technology Initiative (BISTI), an initiative to address the needs for computing and computational biology. For example, this might include encouraging non-biological scientists to collaborate with researchers. To address an urgent need in biomedical research for scientists trained in bioinformatics and computational biology, the National Institute of General Medical Sciences (NIGMS) has initiated an institutional predoctoral training program in these fields. The program will support training in the background theory and biological application of information sciences—including computer science, statistics and mathematics—to biomedical research problems. A pilot NIGMS training program will support summer research experiences for undergraduate students in the quantitative and physical sciences.

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These students will be exposed to biomedical research by working under the mentorship of NIH-supported investigators. In FY 2001, at the requested level, NIH will support 30 full-time training positions at a cost of \$1 million for these BISTI training programs. (These figures are included within the total NIH National Research Service Awards.)

In FY 2001, predoctoral stipends will increase to \$15,396, a 2.2 percent increase over the FY 2000 stipend of \$15,060. Postdoctoral stipends will also increase by 2.2 percent, ranging from \$27,504 to \$43,236, contingent upon level of experience. This is in comparison to the FY 2000 stipend rate that ranges from \$26,916 to \$42,300.

The FY 2001 budget request for Head Start, child-focused programs that have the overall goal of increasing the school readiness of young children in low-income families, is \$6.3 billion, a \$1 billion increase over last year's request. This large increase will allow more than 70,000 children to enroll in the program, for a total enrollment of 950,000.

Environmental Protection Agency (EPA): For FY 2001, EPA is requesting \$8.4 million for environmental education, 10 percent of which is for the National Environmental Education and Training Foundation Program. This is a \$3.5 million increase over FY 2000. In addition, \$1 million is requested for the GLOBE program.

Smithsonian Institution (SI): For FY 2001, Smithsonian is requesting slightly more than \$13.4 million for education programs with a SMET focus.

CONCLUSION

As President Clinton notes in his budget request, we must invest more and demand more when it comes to education. If we want our Nation to continue to excel—to continue to pursue cutting edge science and technology—the combined commitment to SMET and education must persist, and must continue to grow. In general, the President's request expands the federal government's support of SMET education programs, especially in reaching out to underrepresented minorities.