

Chapter 10

Outreach Accomplishments

Criterion Three – Outreach: *Colorado State University is accomplishing its outreach purposes.*

Introduction

This chapter describes and evaluates the many dimensions and accomplishments of outreach at CSU. While some designated units within the University have a special and unique role in the dissemination of information to Colorado constituents, this chapter demonstrates that the commitment to outreach extends throughout the institution. CSU’s outreach programs and activities emphasize contemporary issues and the ability to adapt to changing environments. Outreach has traditionally been defined as applying research-based knowledge to respond to local, state, national, and international needs. While information transfer activities continue to be a core dimension, the reality of outreach today is more and more a process of engagement in which the expertise and energy of University faculty and staff are linked to the expertise and energy of people and organizations outside the University in pursuit of shared objectives. Through the process of engagement, CSU has remained in step with the pressing needs of those it seeks to serve through a process of listening and responding. Strategic partnerships have been formed to take advantage of opportunities and to achieve greater efficiencies and effectiveness. Evidence that CSU is effectively accomplishing its outreach purposes in varied and diverse ways is provided throughout this chapter.

*Engagement,
listening,
and
responding.*

University Outreach and Public Service Mission

As a land-grant institution, CSU maintains a wide range of extension and public service programs as a result of its unique mission in the State of Colorado. The CSU mission statement defines the land-grant concept as a “balanced program of teaching, research, extension and public service” and acknowledges that this balance “provides the foundation for the University teaching and research programs, Agricultural Experiment Station, Cooperative Extension, and the Colorado State Forest Service.” CSU is “striving always to improve the human condition” (*CSU Vision Statement*) in diverse contexts and within changing social, economic and demographic conditions. One of the University’s four programmatic aims (described in Chapter 5) is to:

Provide Outreach Programs Responsive to the Educational and Developmental Needs of All University Constituencies

The University will provide learning experiences, both on- and off-campus, to meet the evolving needs of the widest range of clientele. Colorado State University accepts its land-grant responsibility to serve the needs of the

people of the state, nation, and the world by developing and sharing knowledge within its areas of capability.

Outreach is such an integral part of the culture at CSU that all units participate at some level. CE and CSFS are two of the most important and highly visible outreach agencies supporting CSU's land-grant mission. The DCE also has a critical outreach role as CSU continues to make education and training accessible to broader audiences. All academic colleges have organized outreach efforts, and many faculty members within academic departments commit some portion of their time to these activities. A variety of CIOsUs at CSU have a strong focus on outreach and provide the infrastructure for a wide range of interdisciplinary outreach programs. The DSA is also a major contributor to the outreach efforts of the University.

The *AF&AP Manual* defines outreach and offers examples of appropriate outreach activities.

Service advances the interests of the institution and the professions. Outreach advances the capabilities of constituents outside the University and offers knowledge, skills, and advice to the local, state, national, and international community (Section E.12.3).

Outreach is public service essential to fulfilling the academic mission of the University to the external community. It involves education and information transfer activities for constituencies typically not traditional students. Outreach includes but is not limited to presentations, workshops or training sessions; professional consultation; service on local, state, national, or international commissions, advisory boards, corporate boards, or agencies; assisting in program development in grades K-12; participation in a professional capacity in programs sponsored by student, faculty, or community groups; participation in distance and continuing education instructional activities including those in an organizational or advisory capacity for University programs; technology transfer and non credit lectures to groups; and public relations activities that serve the University's interests such as appearances as a University representative before government bodies or citizen groups, and responding to inquiries from citizens. Service rendered in one's professional capacity as a citizen of the community is commendable and can be evaluated as an appropriate faculty activity (Section E.12.3.3).

Infrastructure for Outreach at CSU

Cooperative Extension

CE operates in 59 of 64 counties in Colorado with a total county educational staff of 224 FTE and 61.8 FTE faculty members with extension appointments on campus plus 421 support staff members (Fall 2003). Educational programs are organized around seven base program areas: youth development, sustaining agriculture and the environment; horticulture; communities in transition; natural resources; food safety, nutrition, and health; and enhancing families and communities. In addition, critical issues are identified through a network of advisory committees in every county and regular networking with community leaders,

business owners, and members of educational and social service agencies. Currently these issues include: drought and fire prevention, emergency preparedness (including homeland security), gerontology, understanding biotechnology, water quality-access and quantity, work force transitions and preparation, and growth decisions. These base programs and issues are addressed by teams of county and state faculty working together on short and long term impacts. Annual and four-year plans of work are developed, assessed, and available in the web-based Electronic Program of Work and Evaluation Reporting System (e_POWER).

Colorado State Forest Service

The CSFS has 17 District Offices and two Special Project Offices located throughout the state. This agency conducts numerous outreach efforts each year that range from basic forest health and forest management training to the increasingly popular “Fire Wise” series that teaches mountain property owners how to reduce the danger of wildfire and the related Community Fire Wise programs that teach County Commissioners, local fire fighters, and law enforcement personnel how to manage fire risks. The CSFS also helps to train more than 2,000 wildland firefighters each year through two “fire colleges” and through direct instruction at the fire stations and community centers of towns around the state. The CSFS works with “green industry” representatives to help them better manage their businesses and serve the people of Colorado. The agency also sponsors Project Learning Tree (PLT), a national environmental education program that has won awards for the excellence of its materials and the methods used to present them to classroom teachers. The overall goal of PLT is to get environmental knowledge and understanding into the curriculum of K-12 teachers.

Division of Continuing Education

The breadth of outreach at CSU is demonstrated by DCE’s programs and courses that are specifically developed to share CSU’s expertise with constituents and to meet CSU’s land-grant mission. DCE has completed a comprehensive review of its vision, mission, and strategic plan to identify the most effective way to serve constituents and stakeholders around the state. As a result, major changes have been implemented to improve engagement and build sustainable external relationships. DCE examined all of its processes and marketing from the perspective of the customer by asking focus groups of area citizens and past participants what they liked and didn’t like about what has been traditionally offered. In response to this input, changes were made in registration processes and marketing focus. An improved website was constructed to be more user friendly and the use of technology was increased in the delivery of services. Additional details of the *Focus on the Future* plan are described in Chapter 11.

Outreach through DCE is delivered through both credit and non-credit programs. The non-credit programs are designed to meet needs of individuals or groups seeking quality instruction but not formal credit. When instruction is offered for Continuing Education Units (CEUs), the criteria and guidelines used are those established by the International Association on Continuing Education and Training. As is true of credit courses from DCE, non-credit courses are delivered face-to-face or via distance delivery, typically online (with the same WebCT support as for credit courses). Non-credit courses are held at the Denver Center, the Continuing Education Center in Fort Collins, at an employer’s site or, when convenient and space is available, in classrooms on campus. One of the reasons to provide non-credit courses is to introduce students to CSU in what is perceived as a less threatening atmosphere (small groups, little if any homework, mostly nontraditional students, no grades, etc.). In order to accomplish this goal, some courses are held on campus during times when classroom space is otherwise underutilized.

The enrollment trends for non-credit courses have shown steady growth until FY00 when there was a marked increase due in part to implementation of better registration tracking systems (Table 10-1). In FY01, enrollments peaked and then began to decline, which is attributed to a significant increase in non-credit rental account activity (short-courses, one-time workshops, etc.) and more accurate counts for Denver Center non-credit activity.

Table 10-1. Total student enrollments in DCE non-credit courses by year.	
Year	Enrollments
FY97	2,841
FY98	8,045
FY99	7,876
FY00	12,228
FY01	16,738
FY02	11,238
FY03	9,869

The programs in non-credit basically fall into the categories of Public Safety, Technology, Professional Development, Certificate Programs (such as Construction Management, Paralegal, Process Management, etc.), Personal Enrichment, and Rental Accounts/non-credit short courses. Some non-credit short courses are offered by CSU departments with DCE providing services such as registration and financial management. The instructors of these courses may be regular CSU faculty, graduate students, outside specialists, or consultants. The instructor, in cooperation with the DCE Program Director, determines the curriculum for courses. The curriculum for Public Safety and many certificates are determined by the industry served. It is the goal of the Program Directors to have an advisory board to help determine what information is most important to the target market. Currently the Public Safety and Mortgage Lender Certificates are the only target markets in non-credit with a formalized board. The students evaluate each course and each instructor during the final class meeting. The evaluation is fashioned after the University course evaluation with the addition of marketing questions. The evaluations are reviewed by the Program Directors and results are shared with the instructors. Student comments are considered very carefully when decisions about course content and instruction are made.

DCE is constituent-based and also uses the results of needs assessment to determine program offerings. Programs have been developed and/or modified to meet the specific needs of distinct groups of distance learners as the following examples illustrate:

- Custom training services are offered that align CSU's training and educational resources with the vision, mission, and strategic initiatives of outside companies and organizations. Clients have included Lockheed Martin, HP, United States Postal Service, GE Software, Qwest, Colorado Foundation Medical Care, National Renewable, and Adams County, among others.
- Over 20 certificate programs, comprised of a series of short courses, are offered by DCE for individuals wanting to expand their work-related skills in such diverse areas as project management, victim advocacy, microcomputer applications, and telecommunications.

DCE was recently recognized by the University Continuing Education Association at the National Marketing and Publications Awards Competition. Chosen from over 300 entries, CSU's "Mind Improvement" Spring 2003 catalog of continuing education offerings received the 2nd place honor in one of the General Catalog Categories. A CSU student designed the cover while participating in an on-campus graphic design internship. DCE is especially proud of this distinction because of the use of focus groups to make the catalog more user-friendly.

Academic Colleges

The traditional areas of institutionalized outreach that one would expect to find at a major land-grant university in the West, such as agriculture, natural resources, engineering, and veterinary medicine, are a major focus of outreach at CSU. The academic colleges representing these areas are actively engaged both in fulfilling their historic missions and translating those missions into today's rapidly changing economic, technologic, demographic, and cultural context. Over the last few decades, the University's outreach programs have significantly broadened beyond those historic areas of emphasis to serve an increasingly diverse audience, and there is also clear evidence that outreach is increasingly interdisciplinary and crossing traditional boundaries. The scope and range of outreach activities vary by the stated purposes of each college and its traditional links to the outreach mission of the University.

Centers, Institutes, and Other Special Units

CIOUSUs are highlighted throughout this chapter since they have provided the structure and leadership for many outreach efforts at CSU, particularly those involving interdisciplinary approaches. As discussed in Chapter 9, many of the CIOUSUs have strong research programs that inform outreach efforts.

Division of Student Affairs

DSA conducts a series of programs connecting CSU students and staff with diverse

students in K-12 and other postsecondary institutions. A few examples include a big brother/big sister program that pairs Asian/Pacific American college students and K-6 children; the Office of Native American Student Services' Tribal College Western Exchange Awards, that offers a special tuition reduction opportunity for eligible transfer students from 21 partner tribal colleges located in the Western Undergraduate Exchange states; the Academic Advancement Center, an academic support and mentoring program for low-income, first-generation, and disabled college students that also reaches out to older foster youth in the community; and the Center for Educational Access and Outreach, which helps thousands of disadvantaged, diverse youth and adults in the surrounding communities to increase awareness and motivation regarding higher education, improve academic achievement, and apply and enroll in a program of postsecondary education. Other DSA outreach activities are described in Chapter 7 as part of the University's effort to integrate students into higher education.

The Many Dimensions of Outreach Accomplishments

One of the distinctive characteristics of CSU is its commitment to outreach as stated in the *Context for Planning* and introduced in Chapter 5:

We are committed to serving the public interest of Colorado, the nation, and the world. Our success will rest with our ability to forge partnerships with those whom we serve and who support us. University outreach supports educational opportunity, economic development, and other public endeavors, and enhances quality of life.

The many dimensions and accomplishments of outreach provide evidence for this assertion. The historic areas of institutionalized outreach have continued to revitalize themselves. At the same time, the maturing of the University and the broadening of its areas of academic excellence have resulted in an extension of outreach into many new areas in response to the changing context for public higher education and the needs of its increasingly diverse constituents. The process of engagement includes a growing role for "listening and responding," both to increase the probability that shared objectives will be achieved and to build collaborative relationships that can address emerging needs. Just as it is becoming necessary for research to transcend traditional disciplinary boundaries, outreach activities are also becoming more interdisciplinary in order to be poised to serve society. Increasingly, outreach programs at CSU involve multiple partners and unique collaborations with business, industry, government, and non-profit organizations. Partnerships strengthen outreach efforts by providing multiple perspectives on complex issues, and involving key stakeholders from the onset of program planning through implementation and evaluation.

For organizational purposes, selected examples of CSU's outreach accomplishments are presented in the following categories, in parallel with the above assertion: supporting educational opportunity, promoting economic development, enhancing quality of life, serving

public interests, and addressing global needs. It should readily be apparent that many accomplishments could be listed in more than one of the categories.

Supporting Educational Opportunity

Many CSU agencies, academic colleges and departments, DSA and other units have extensive and ongoing collaborations that serve to enhance K-12 linkages with the public schools. CAHS sponsors a “Kids in College” program on campus each summer to provide enrichment, exploration skills and processes to enhance learning and content knowledge in the areas of science, mathematics, art, and technology. CAS sponsors an annual Ag Adventure Day with an average of over 1000 third grade students, teachers, and parents attending each year to learn more about where their food comes from. The CVMBS K-12 Science Connection places University students in classrooms to help teach dissection, and the Technical Journalism department hosts 1000 high school students and their faculty advisers for the annual High School Journalism Day.

It’s a G.A.S. (Garfield Art Squad/Garfield After School) serves approximately 30 students in grades 1-5 who are identified by teachers and counselors as “at high risk for school failure.” Garfield Elementary School in Loveland, Colorado, was chosen because of the high number of at-risk students: in 2000 half of the students in the school qualified for reduced or free lunches and 37% were reading below grade level. The program brings an art teacher, CSU art student mentors, and the elementary school students together for after school art-making activities that emphasize literacy and numeracy skills. Statistics on school attendance show that chronically truant students are less likely to miss school on days *It’s A G.A.S.* is in session, and parents report that their children feel more positive about school. Parental suggestions have led to holding yearly exhibitions of student artwork at public venues, and teacher suggestions have led to the decision to have the Garfield art teacher replace CSU faculty to increase the integration of the program with the life of the school. Faculty members report that this outreach program also contributes to achieving the educational objectives of the Art Department.

The **Center for Science, Mathematics, and Technology Education (CSMATE)** provides program development, outreach and research in science, mathematics, and technology education. Ongoing internal and external evaluations, including those of its numerous funding agencies, provide feedback for further development and engagement with K-16 audiences. CSMATE has engaged in 33 separate, one- to five-year long, systemic projects. One of the cornerstones of CSMATE’s success is **Small-Scale Science**, an innovative approach proven to be effective in improving student understanding of chemistry. This approach reduces costs, improves instruction, and increases safety.

Faculty from CSMATE and the Department of Atmospheric Science are participants in the **Global Learning and Observations to Benefit the Environment (GLOBE)** science outreach program, a NASA-sponsored K-12 program that allows students and teachers to collect scientific data and enter it into a central database that scientists can then use for research. Students take measurements, analyze data, and participate in research in collaboration with scientists. Over a million primary and secondary teachers in more than 12,000 schools have taken part in the program, and there are more than 20,000 GLOBE-trained teachers. GLOBE is a partnership not only with schools in the U.S. but also involves students and teachers in 102 other countries. GLOBE is an ideal program for involving elementary and secondary students directly in science, improving their achievement in science, mathematics, and computer and network technology usage. In June 2003, the University Corporation for Atmospheric Research in partnership with CSU was officially awarded a Cooperative Agreement from NASA to assume primary responsibility for development and administration of the GLOBE Program.

The **Little Shop of Physics**, a unique traveling hands-on science outreach program, was developed as a program in which K-12 students are the scientists rather than watching someone “do” science. As the project took shape, a group of local teachers volunteered to provide valuable direction and insight, and a group of undergraduates at CSU volunteered to provide the energy and initiative. Since its modest start (bringing 25 science experiments to a half-dozen schools in the 1991-1992 school year), the Little Shop of Physics has grown to a rotating collection of more than 75 science experiments, presented by a large and enthusiastic crew of undergraduate students who have traveled the region, the nation, and the world, bringing a remarkable hands-on science experience to nearly 200,000 children.

The **Colorado Partnership for Teaching Excellence in American and Colorado History**, a program funded by the U.S. Department of Education, is a consortium of five school districts, the history departments at CSU and CU-Boulder, two non-profit history organizations, and the Library of Congress. The program provides professional development for 60 teachers a year to help them achieve a higher level of excellence in teaching American history to students in grades 3-11.

Promoting Economic Development

As a land-grant institution, CSU maintains close ties with industry and business communities in Fort Collins, the Front Range, and throughout the State. Through collaborative efforts, the University can play a role in rebuilding the local and state economy after difficult times and contribute to continued economic growth. CSU faculty have specialized expertise that can be applied in a variety of situations to address diverse economic needs.

COB has made a substantial commitment to economic development, with a particular emphasis on issues raised by globalization, technology, and business ethics. Notable examples include **Centers for E-Business, Entrepreneurship, and Investment and Real Estate Finance**, which continue to expand by developing programs in response to the needs of targeted constituents. The **Institute for Transportation Management** studies transportation related issues facing city, county and state governments. A major focus of the Institute is to provide training and assistance to native Indian tribal communities in the area of transportation issues through the **Tribal Technical Assistance Program**. The **Center for Quality Financial Reporting** focuses on improving the quality and transparency of financial reporting in the U.S. and global capital markets through policy development, training and education. Key areas include corporate governance and audit committees; the quality of financial reporting and controls; international financial reporting and auditing; ethical considerations; and securities regulation.

The **Center for Research on the Colorado Economy** is a partnership between the Department of Agricultural and Resource Economics and the Department of Economics with the Northern Colorado Economic Development Corporation. In coordination with CE and the State Demographer, the Center has developed projects in applied research and outreach of relevance to the state economy. Faculty affiliated with the Center serve as a regular information source for the media, and assist private and public organizations with regional economic analysis.

The **Western Center for Integrated Resource Management (WCIRM)** interdisciplinary program addresses issues faced by ranchers involved in beef and sheep production. Faculty from the CAS, CNR, and CVMBS form an interdisciplinary team involving specialists in animal reproduction, range management, animal nutrition, animal breeding, veterinary medicine, and economics. The WCIRM team works cooperatively with ranchers throughout Colorado to analyze their livestock production practices, the resources available, and ranch economics. Using a detailed analysis of each individual operation, over 400 Colorado ranchers were benefited; improved management plans were developed for over 2 million acres of state and federal lands; annual savings to Colorado sheep producers exceeded \$750,000 per year; and new tools were developed to monitor grazing which are now utilized throughout the West. WCIRM faculty, with support from both the CAES and CE, present workshops and short courses on highly focused areas such as marketing, risk management, production systems, forage evaluation and management, recreational opportunities, wildlife and fishing, personnel management, intergenerational transfer of assets, and drought management strategies.

The **Animal Reproduction and Biotechnology Laboratory** is dedicated to generating new knowledge for the solution of important problems in animal and human

reproductive processes, including advances in artificial insemination with sex-sorted semen, embryo technology, and production of transgenic domestic animals.

Enhancing Quality of Life

CSU serves an important role in addressing **public health** and other quality of life issues. Major contributions have been made in prevention of illnesses, mental health conditions, and social problems. These efforts include devising prevention strategies, intervention to mediate ongoing problems, and capacity to respond to emergencies. For example, a CSU team of seven **Environmental Health** experts spent a week at Ground Zero in New York City to monitor air quality and safety during the period of cleanup at the site of the World Trade Center following 9/11. The **Program in Meat Science and Center for Red Meat Safety** serves Colorado's \$3 billion animal industries by providing research, teaching and outreach that provides the public with objective information regarding meat quality and safety. The **Human Performance Clinical/Research Laboratory** disseminates knowledge in health promotion and exercise science.

The **Center for Community Participation**, in the Department of Occupational Therapy, provides services for people with disabilities and helps remove barriers to their employment. Through collaboration with public schools, community agencies, city and country government, and local businesses, the Center assists individuals with disabilities to achieve their employment goals and become contributing members of their community. Similarly, the **Assistive Technology Resource Center** optimizes human performance in the presence of injury or disability by developing, evaluating, and disseminating alternative service approaches related to the application of assistive technology and computer-related ergonomics.

The **Family and Youth Institute** is a collaborative undertaking between CAHS and CE in partnerships with communities to provide programs to enhance quality of life. One example is the Community Organizing to Reach Empowerment Center that focuses on ethnic minorities and economically disadvantaged individuals through adult education courses and school-age educational programs. Many participants are monolingual Spanish speakers, and less than half have graduated from high school or have a GED.

CVMBBS operates the **Veterinary Diagnostic Laboratories** on campus with branch laboratories in Grand Junction on the Western Slope and in Rocky Ford in the Southeastern part of the state. As a system, these laboratories accept samples from practicing veterinarians, farmers, ranchers, and other animal owners who are requesting guidance for the identification and treatment of disease or the cause of animal death. Each year the laboratories conduct over 200,000 tests on samples submitted from Colorado and 10 regional states. In addition to serving a major role in economic development, the laboratories also support public health.

The laboratories routinely test animal specimens for rabies, West Nile virus and other human pathogens. Three of every four emerging diseases reach humans through animals and 49% of all known pathogens are zoonotic which illustrate the importance of animal disease surveillance. The campus diagnostic laboratory has a national reputation for excellence in a number of areas, notably as the leader in testing for Chronic Wasting Disease (first discovered in Colorado). The laboratories responded to recent economic and public health threats by developing capacity to test for Foot and Mouth Disease, Exotic Newcastle Disease, and anthrax.

The **Tri-Ethnic Center for Prevention Research**, in the Department of Psychology, conducts broad-based, multidisciplinary and multifaceted research aimed at understanding community dynamics and the social, psychological and cultural factors that contribute to problems such as substance use, delinquency, school dropout, domestic violence, HIV/AIDS, and school violence. The Tri-Ethnic Center develops culturally relevant prevention measures for dealing with the problems of youth based on data gathered in ethnically diverse communities and grounded in empirical research. The Tri-Ethnic Center developed and evaluated a new Community Readiness Model as an innovative method for assessing the level of readiness of a community to develop and implement prevention programming.

The **Tropical Meteorology Project** in CIRA (in collaboration with statisticians in CNS and the Department of Sociology) provides quarterly forecasts of the number and severity of hurricane activity in the Atlantic basin. Media throughout the world immediately communicate the forecasts. Coastal residents and emergency management agencies use the forecasts to make appropriate storm preparations for public safety. Insurance companies use the data to assess risks and establish premiums for specific areas.

Serving Public Interests

The highest funded CIOSU at CSU is the **Center for Environmental Management of Military Lands** (CEMML). The Center employs more than 180 full-time biologists, GIS specialists, and resource managers on campus and at military installations across the U.S. (including Hawaii and Alaska) and in Germany. This diverse work force provides expertise in land management and ecosystem science as applied to military testing and training lands. The Center is responsible for the management of natural and cultural resources on Department of Defense lands, and provides technical services to support the military's national defense mission including environmental assessment and impact statements, floristic surveys, GIS data development and training, integrated natural/cultural resource management plans, and vegetation mapping. CEMML recognizes that military land use and resource conservation are compatible goals that can be accomplished through the integration of sustainable land management practices. As a University center of specialized expertise, CEMML has access to

campus resources and partnerships with government agencies and consulting firms to support its military customers.

After the devastating Fort Collins summer flashflood of 1997, faculty at the **Colorado Climate Center** in the Department of Atmospheric Science founded the **Community Collaborative Rain and Hail Study (CoCoRaHS)**. This “citizen science” project brings together volunteers of all ages from both rural and urban areas of Colorado to collect rain, snow, and hail data from their own farms, ranches, neighborhoods and businesses. With the help of the Internet, these data are compiled, displayed and disseminated to show precipitation patterns every day of the year. The objective of the project is to learn more about local precipitation patterns and their impacts on agriculture, water resources, recreation, and ecology. Significant research accomplishments include successful collaborative flood studies with city utilities in Colorado, and major progress on hail swath mapping using the **CSU CHILL National Radar Facility**. CoCoRaHS provided Colorado with excellent climate monitoring capabilities during the severe drought of 2002.

During the decade between 1990 and 2000, Colorado experienced a 20% increase in population, particularly along the Front Range. Many families were commuting to their workplace and communities were growing so rapidly that social connections and services between neighborhoods were adversely affected. In response to these changes, **CE Youth Development (4-H)** increased in Colorado from 81,302 to 114,806 due to a commitment to implement new models of youth development with critical partners. Among the most important collaborators were teachers in public school settings, both during school and in after-school programming.

CE, in collaboration with the businesses of the Green Industry in Colorado and the Denver Botanical Garden, developed a service to the general public entitled **Planttalk**. The 800 number provided citizens with recorded answers to horticulture questions and faculty contact information. Soon after implementation, the system was receiving a half million calls annually. In response to the results of a survey assessment of their educational clients, CE purchased a software program and created a new service entitled **AnswerLink.info** in Fall 2000. The artificial intelligence database was populated with frequently asked questions collected from county faculty and state specialists. Quality control procedures were established whereby questions and answers were reviewed by state faculty and approved before placement on the public site. By the spring of 2002, 2,300 questions were entered into the database. Between June and December of 2002 with only limited marketing, there were 75,000 hits to the AnswerLink website, representing 14,000 separate users.

A university-wide **Public Policy Institute** was organized by faculty members and administrators from four colleges (CAS, CAHS, CLA, and CNR) and three University agencies (AES, CE, and CSFS) in response to growing concerns in the state over the reliance

on initiatives and referendums to make public policy decisions in Colorado during the 1990s. When fully operational, the institute is expected to enable CSU to more effectively focus and direct the University's existing capacity to provide an objective voice advancing the public dialogue on policy issues of importance to Coloradans; particularly on those issues involving the interface of agriculture, natural resources, and people.

The **James L. Voss Veterinary Teaching Hospital (VTH)** in CVMBS is a full-service referral veterinary medical center that provides an outstanding example of the synergy of teaching, research and outreach. The mission of the VTH is to maintain the highest quality medical teaching facility and practice to support veterinary medical education needs and the companion animal and livestock industry veterinary medical needs. The VTH uses the latest in veterinary technology, and many of the faculty members have developed procedures and methods that have advanced the field of veterinary medicine. Clients come from across the nation to benefit from the high quality of animal health care and special services. Each year, over 25,000 animal patients are attended in the VTH. Over 80% of these patients are companion animals with significant emotional value to the owner. The remainder includes production and performance animals and wildlife. Approximately 1300 ambulatory service calls are made each year to examine and treat over 45,000 animals. These veterinary services generated over \$9M of revenue in FY03.

Addressing Global Needs

CSU has been a leader in recognizing the rapidly changing global environment and has made a commitment to excellence in international education. Internationalism is one of the distinctive characteristics of CSU identified in Chapter 5. Many of the outreach activities address quality of life issues and economic development needs at both the local and global levels. In turn, faculty members providing leadership to international projects gain valuable experience that they are able to bring back to the classroom to share with their students. These experiences also help shape future research agendas with relevant applications to specific global needs.

High-level professionals, teachers, and government leaders have participated in many of the international short courses and training programs coordinated by CIOUSUs, academic departments and colleges, and the Office of International Programs. For example, in 2002 secondary science teachers from Korea visited CSU through a funded project to learn more about the latest methods in science education through CSMATE. Also, more than 200 Park Managers from Central and South America have been trained through the **Center for International Parks and Protected Area Management**, and the **International School for Water Resources** has provided advanced training for engineers and managers from more than 65 countries. Other funded training projects coordinated at CSU over the past few years

have included projects as diverse as the East Anatolia Watershed Training, African Economic Reform Program, and the USDA International Agriculture Training Program.

The research expertise of CSU faculty is recognized worldwide and has been applied to solving the biomedical, social, economic, environmental, and other issues in many different countries. The **Arthropod-Borne and Infectious Diseases Laboratory** and **Mycobacteria Research Laboratories** are two examples of research programs that are actively addressing global human health concerns. The **Global Livestock-Collaborative Research Support Program**, funded by USAID, addresses issues of human welfare and resource conservation in areas of high pastoral and wildlife populations in East Africa. By working directly with East African team members, partner organizations, and various stakeholders, project organizers have created a multi-institutional problem-solving team, rather than an external advisory group trying to advance their specific agenda. The **Manila Clean 2-Stroke Project** is a collaboration with the Partnership for Clean Air, an umbrella organization of more than 100 government, development and environmental agencies in Manila, to drastically reduce the city's air pollution. Two-stroke engines are recognized as a primary contributor to pollution and health problems in the Philippines and many developing nations, but the vehicles powered by these engines are also a key to the business and social structure because of their low cost and durability. By adapting "direct-injection" technology for retrofitting the existing two-stroke engines in Manila, there is potential to dramatically reduce air pollution in many developing nations.

CSU has established over 250 International Memoranda of Understanding with universities and centers around the world, and it has a strong history of international technical assistance in a wide range of areas. In the past few years alone, CSU faculty have participated in an education reform project in Azerbaijan, consulted on technology education in higher education in Chile, conducted teacher training workshops on small-scale science in Ethiopia, and helped establish a Center of Excellence for Instructional Media Development in West Africa. These are just a few examples of the many ways CSU faculty have used their expertise for technical assistance outside the United States.

Integration of Outreach with the Instructional Mission

The integration of outreach with student learning is exemplified by internships and other applied experiences required in many academic programs. All departments in CAHS have well developed student internship programs. Another example is the Department of Journalism and Technical Communication that places approximately 70 students a year in internships with non-profit agencies. Civil engineering students take a required senior capstone course that cultivates the development of teamwork while creating designs for real-life challenges facing Colorado communities. Students work in teams to solve projects

identified through faculty relationships with a variety of communities, the National Park Service, and county extension faculty. The students are responsible for creating a feasibility review of the project, then presenting options for the community to consider and preliminary plans and drawings. Civil Engineering faculty estimates that 90% of the projects are realized in the communities.

Civic education is highly valued at CSU, and students are given numerous opportunities throughout their educational careers to become involved in the outreach mission of the University. A service orientation and an appreciation of the land-grant tradition among students is fostered through service learning and integration of outreach with course content. The **Office of Service Learning and Volunteer Programs**, in DSA, is a recognized leader in helping communities meet their needs through student outreach by sponsoring all-university activities that promote social awareness and civic responsibility. It sponsors the successful **Service Integration Project (SIP)** to support faculty in designing and implementing service-learning courses. SIP connects University resources with community needs by nurturing and developing relationships with over 300 community agencies. While providing valuable experiences for students, these programs benefit countless others. Over 25% of CSU's total student enrollment has participated in service learning activities (see student engagement in service learning activities, Chapter 7, Table 7-3), and the impact on local communities is illustrated in the following examples:

- The **Cool Kitchen Lab for Kids** project connects Food Science and Nutrition students with elementary children to increase awareness regarding nutrition in order to help decrease adolescent obesity.
- The **Rural Building Renovation** project allows Interior Design students to redesign dilapidated rural buildings to improve functionality and aesthetics.
- The **Women and Communication** project arranges for Speech students to work with women, children, and diverse populations from community agencies to explore the effects of culture, language, and education on women.
- The **World Interdependence Food and Population** project gives International Studies students the opportunity to work with the local food bank to explore local manifestations of hunger.
- Through the annual **Cans Around the Oval** food drive, CSU students have collected many thousands of pounds of food for the local food bank.

Recognition and Reward of Excellence in Outreach

Most CSU faculty members, unless they have CE specialist responsibilities, allocate about 5-20% of their effort distribution to outreach and professional service. These activities take a variety of forms such as serving on boards of non-profit organizations or state advisory

committees, consulting with local business or agricultural groups, testifying as an expert witness, and a number of other individual activities that enhance the reputation of the faculty member and CSU. Professional service often takes the form of contributing as an officer in a national, regional, or state professional organization; serving as an editor or member of a review board for a professional journal; or other activities that enhance the reputation of the discipline while providing a valuable service.

In annual faculty evaluations, performance in professional service and outreach is evaluated consistent with the process for evaluating research and teaching. The *AF&AP Manual* states “Outreach is evaluated through the amount, quality, and effectiveness of service to the external community” (Section E.12.3). Outreach productivity is also considered in tenure and promotion decisions (Section E.9). Many faculty, however, consider outreach to be undervalued as compared with research and teaching.

Outreach rewards and professional development opportunities for faculty vary considerably by academic unit. In general, fewer faculty awards exist for outreach as compared with research and teaching. Many times, outreach accomplishments are also less visible on the CSU campus, since much of the work occurs in an external setting. While many outreach activities are institutionalized and a large number promote increased extramural funding, there are also many examples throughout the University of outreach activities that are going on simply because people believe in their importance. These efforts are, in a very real sense, examples of community volunteerism. Many of the rewards of outreach are intrinsic as faculty and staff apply their particular expertise to real-life issues and connect with their larger communities.

Efforts have been made over the last decade to support faculty participation in international assignments as a form of outreach. CSU acknowledges that time and effort involved in international outreach as evidenced by the following policy statement in the *AF&AP Manual*:

The University encourages its academic faculty and administrative professionals to accept off campus assignments which are not part of normal University duties but which are part of the institution's international mission or are of national, state, or institutional interest, as long as these do not conflict with the mission of the faculty member's department (Section D.7.4).

Despite this policy, only a very small percentage of CSU faculty members participate in international outreach unless it is well integrated with their ongoing research programs.

Cooperative Extension

CE has a system of rewarding and promoting excellence in outreach based on its many years of experience providing extensive service. CE presents an annual Colorado Program team award, a diversity award, and a variety of specific program awards at the

annual conference each Fall (co-sponsored by four state/national professional associations). Several state awards are also given for outstanding leadership and programming in outreach to campus faculty who are extension specialists. Numerous external awards have also been received by CE faculty and staff for their accomplishments. Following are examples of national and regional awards acknowledging excellence of CSU programs and/or individual performance in CE:

- Frank Peairs, Professor in Bioagricultural Sciences and Pest Management, received the 2003 Distinguished Achievement Award from the North Central Branch of the Entomological Society for his many accomplishments as an Extension Entomologist.
- The CSU Combined Nutrition Education Plan received the USDA National Recognition of Innovative Nutrition Education Activities Implementing Bilingual and Healthy Eating Campaigns for Food Stamp Households in FY00.
- Robert Fetsch, Professor and State Extension Specialist in Human Development and Family Studies, has participated in several projects receiving external recognition. The Colorado RETHINK Parenting and Anger Management Program was designated in 2002 as a Program of Excellence on the USDA national database and this program was also selected as the 2000 National Award Winner of the National Extension Association of Family and Consumer Sciences' Florence Hall Award Program in 2000. He also received the Outstanding AgrAbility Partner Award by Easter Seals Colorado for extension outreach to disabled farmers.
- Jeff Tranel (CSU CE South Central Region, Extension Agriculture and Business Management Specialist) was part of a team that received the 2003 Western Agricultural Economics Association Extension Award for their project, "Ag Help Wanted," that produced an educational guidebook on managing human resources on farms, ranches, nurseries, dairies, and other agricultural operations.
- Ann Hall, El Paso County Cooperative Extension (4-H Youth Development and Family Consumer Sciences Agent) received the first ever USDA/Department of the Army Project Salute Award in 2002 for her work in establishing the first Army after-school program.

CE also provides a variety of opportunities for professional development as a means of fostering excellence in outreach. Two state conferences are held annually, and county faculty are required to complete at least 40 hours of program development each year in their program area. CE also requires all professional employees to file a professional development plan approved by their supervisor after which they can access limited funds for attendance at an out-of-state professional meeting. Full funding is given for a conference presentation providing data on the effectiveness of outreach programs.

Academic Departments and Colleges

The academic program review process at CSU includes service and outreach as a major category for each department to address as it conducts its program review every six years. A comprehensive list of outreach programs and service activities can be listed in the program review report. Depending on the emphasis given to this component by individual departments, one or more aspects of outreach may appear on the action plan resulting from the program review. Most departments, however, have tended to put more emphasis on research and teaching (rather than outreach) in their action plan for advancing their units.

Beginning in 2003, each academic department has been asked to identify one desired outcome in the area of outreach and service as part of PRISM. Accomplishment of these outcomes is expected to be assessed using systematic methods with the goal of continuous improvement in the outreach functions of each academic unit.

Key Strengths

- **Colorado State University fulfills its land-grant mission through diverse and multifaceted outreach activities.**

The University is accomplishing its purposes with dynamic, future-oriented outreach programs and service activities that take advantage of available technology and cutting-edge knowledge. The areas of institutionalized outreach traditionally found at major land-grant universities in the West are actively engaged, both in fulfilling its historic missions and translating those missions into today's rapidly changing economic, technological, demographic, and cultural context. In addition, there has been a significant expansion in outreach activities beyond those historic areas of emphasis. Increasingly, outreach activities include interdisciplinary efforts and involve partnerships that provide increased access, services, and opportunities to diverse and disadvantaged populations throughout the University's sphere of influence. Outreach is successfully integrated with student learning and research activities, demonstrating a pervasive synergy among the University's research, educational and outreach missions. The evidence provided in this chapter demonstrates that CSU fulfills its outreach purposes within Criterion Three.

Challenges and Opportunities

- **Colorado State University lacks a central administrative process for providing oversight, accountability and advancement of the outreach mission.**

While the University's outreach accomplishments are numerous and impressive, comprehensive information on outreach is not compiled at the University level and

no central reporting process exists that annually details the extent and impact of the University's combined efforts in outreach, unlike the institution-wide tracking that is routinely done for teaching and research accomplishments. While individual units, such as CE, CSFS, DCE, academic departments and colleges, and DSA typically include detailed accounting of outreach activities in their annual reports, no clear overall picture exists at the University level of the vast amount of activity that occurs in this area. Because no central office or administrator is responsible for all of CSU's outreach in its many forms, the full extent of the University's accomplishments in this area can easily be underestimated. Also, it may be challenging for external audiences wanting to access the University's outreach services to discover the appropriate point of contact.