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INTRODUCTION

What is “sustainability?”
We’re often asked if the sustainable universities initiative is “an attempt to keep the universities in business.” Actually, our mission is much more far-reaching than that: we are trying to keep our society “in business.”

Most of us want to believe that our society and its institutions will endure. Many of us, however, suspect that current trends jeopardize our children’s ability to enjoy the same advantages we have. Around the world, these concerns have led to an interest in “sustainability” or “sustainable development.”

Think of a triangle, with environment, economy, and society at the points. Environmental protection, economic stability and social equity—often called “the three E’s”—provide the basis for sustainable development and are inextricably linked. If you pull on one point of your triangle, making its angle more acute, the other two angles will widen. Similarly, if you make a change in the economy, you will inevitably affect the environment and the community or society.

Sustainability at the Universities
In late 1996, representatives of an international foundation approached South Carolina’s three research universities—Clemson, Medical University of South Carolina (MUSC) and the University of South Carolina (USC)—and asked them to work together to incorporate sustainability into their own institutions, and, by extension, other institutions in the state. Working with a 16-month planning year grant, the three schools came together to formulate a plan to incorporate sustainability into the curricula of the three schools, improve campus operations, and strengthen links with the larger community. In February of 1999, the foundation agreed to fund our plan, and the three schools embarked on a five year effort to make students, faculty and staff more aware of our own and the Universities’ environmental impacts and our responsibilities to minimize them.

Goals of the Plan
The primary focus of our efforts, our strategy, is to change the products of our institutions, and ultimately the state, by working with faculty to expand their teaching and research agendas, and with administrators and operations managers to ensure that our institutions are practicing what the faculty are preaching. The Sustainable Universities Initiative (SUI) will serve as a catalyst for activities which will make the state’s three research universities, other educational institutions, and ultimately, the state as a whole, more sustainable. It will also result in a new model for multi-disciplinary and multi-institutional cooperation within South Carolina’s higher education community. Finally, it is hoped it will serve as a model for other state-assisted colleges and universities nationwide.
If our institutions were three divisions of a large company, we would say that our strategy is to change the corporate culture, beginning with product engineers (faculty) in order to produce a product (students) better suited for changing markets (global deterioration). However, as a former corporate executive who now teaches at Clemson says, universities don’t work like corporations. They work more like loose agglomerations of independent entrepreneurs, drawn together by common interests. For that reason, as well as others noted above, we believe we will be more successful in “changing our products” if we encourage a large number of smaller efforts, rather than several large efforts. We predict that this strategy will more fully integrate sustainability into the fabric of our institutions over the long term.

Specifically, we propose to:

♦ Effect change within the faculty
♦ Facilitate student and community involvement
♦ Conserve natural resources by making university operations more efficient
♦ Share information with a wide audience

Presidents’ Commitment
To demonstrate their commitment to effecting change on campus, all three research university presidents signed the following statement of support for the effort:
The South Carolina Sustainable Universities Initiative

The South Carolina Sustainable Universities initiative represents an intellectual community committed to the advancement of theoretical and practical knowledge, as well as a collection of physical operations rivaling small towns in size and scope of impact on the environment. Recognizing our role as a positive force in the state’s economic and social advancement, we believe it is incumbent upon us to cooperate in leading the way toward a more sustainable future through our teaching, research, community service and facilities management.

We therefore singly and collectively commit to:

- Fostering in our students, faculty and staff an understanding of the relationships among the natural and man-made environment, economics, and society as a whole.
- Encouraging students, faculty and staff to accept individual and collective responsibility for the environment in which they live and work.
- Serving as a center of information exchange for other institutions within the state.
- Operating existing facilities and constructing new facilities so as to maximize efficiency and minimize waste, thereby protecting the environment and conserving resources.

South Carolina Sustainable Universities Initiative
Highlights of Year One
April - December, 1999

FACULTY ACTIVITIES

Conferences: Our Year 1 business faculty development conference, held in partnership with World Resources Institute, was a success. Representatives of several progressive industries—Bosch, Allied, the insurance company AIG and Interface—joined business school faculty from across the state in a conference to explore ways of incorporating environmental considerations into the business curriculum. Many attendees wrote to let us know that they were
able to incorporate information from the conference into their teaching and several said they had contacted some of the industry speakers to come talk with their classes. We think this is a valuable link between academe and those who are incorporating environmental considerations into the daily operations of their companies. Two workshops presented by MUSC faculty members taught MUSC and College of Charleston professors to offer courses on the web, reducing expenditures for paper and travel to off-campus teaching locations.

**New faculty and staff** have played a significant role in raising awareness of sustainability on campus. MUSC-SUI has partially funded a faculty mentoring center and mentor, housed in the MUSC library. The mentoring center allows library personnel to assist faculty in adapting courses for web delivery and to provide a variety of information about conservation (including reusable mugs) to those who pass through the library. The new environmental ethicist at USC taught a popular undergraduate course in environmental ethics, and also participated in a number of faculty seminars across campus. He also established a lecture series which will bring a number of environmental ethicists to campus over the course of several years.

**Speakers** funded by SUI have served to generate discussion about sustainability and environmental issues on campus. The Environmental Policy Forum organized by Clemson’s Strom Thurmond Institute attracts members of the public as well as occasional participants from other institutions. However, we have found that for the most part, logistics prevent us from utilizing speakers on more than one campus. Speakers want to get back to their own work as quickly as possible, faculty can’t easily leave campus for a single speaker, and the potential of teleconferencing has not yet been fully realized.

An **unanticipated activity** began when faculty from MUSC, USC and Clemson came together in the fall of 1999 to explore the medicinal use of plants which are either native to SC or which grow well here. Clemson agronomists are hoping to find alternatives to tobacco for farmers. USC and MUSC pharmacists are seeking information for their students faced with a burgeoning market for herbal remedies about which little is known. Ethnobotanists are interested in exploring the relationship between native folk medicine and modern medicine (“Back to the Future” may be the operative term here, as we rediscover value in ancient remedies.) Cancer researchers are seeking links between cancer prevention and treatment and various foods or plant-based medicines, and plant physiologists are interested in finding the precise mechanisms which enable plants to exert beneficial effects. A follow-up working conference is scheduled for September 21-22, 2000.

**Mini-grants** have been used to spur the development of new courses, to provide preliminary support for interdisciplinary research, and to teach students while serving the community. Two Year 1 mini-grants involved non-project schools. Final reports for all mini-grants are, or will be, posted on the SUI web site.
New courses or modules for existing courses funded by SUI include incorporation of environmental economics into an advanced course for non-economics majors, inclusion of water quality studies in a proposed civil engineering course, improved teaching of chemistry using environmental examples for education majors, and incorporation of environmental medicine into undergraduate and graduate nursing courses. Faculty who received funding for new course development have all been asked to post their syllabi on the “Starfish” website maintained by Second Nature.

The “mini-grants” program also serves as a catalyst for larger projects which may bring major grants to the state and to encourage interdisciplinary and/or inter-institutional research projects. One such project, managed by MUSC and USC together, explored the potential for liquid CO2 to be used in hospital operations where toxic solvents are currently the only option. If commercially viable, this technology would keep toxins out of the waste stream, and would provide a safer working environment in hospitals.

Some mini-grants have served to better integrate the universities with local communities and state government. At USC, legal and engineering students are identifying regulatory barriers to more “sustainable development.” We expect this will lead to proposals for legislative action to create a more favorable climate for new and innovative development. At Clemson, architecture students worked with a private foundation in Asheville, NC to design affordable housing for the downtown area. Student designs assisted local architects in creating a more sustainable approach to the problem of housing in cities. Another effort, involving Clemson, USC and College of Charleston/MUSC, explored the role universities can play in mediating environmental disputes, reducing costly legal proceedings. This project served as a catalyst for the establishment of an environmental mediation effort under the aegis of the SC Center for Mediation. Another mini-grant partially funded a joint effort by Clemson’s departments of Horticulture, Sociology and Landscape Architecture to establish wildlife-friendly, low impact landscaping at a local Habitat for Humanity home. This site was the first Habitat for Humanity home certified through the National Wildlife Federation’s Backyard Wildlife Habitat program.

Two of our Year 1 mini-grants involved schools other than the research universities. Lander University explored a broad array of opportunities for involving students and faculty in sustainability-related efforts, leading to a large contingent attending our business conference, a student project to clean a creek on campus and provide continuing oversight and monitoring, and involvement in healthcare outreach to the community. The other project involved Florence-Darlington Technical College in an effort to determine whether web-based instruction is truly effective, and to identify the circumstances under which it is most useful. (We don’t want to encourage widespread use of an ineffective technology even if it does save resources.) The effort has received quite a bit of attention and the investigators have been asked to present their findings at at least two meetings. Copies of their literature search have been requested by local researchers as well as the University of Maryland.
Our **Environmental Management System** (EMS) for higher education, similar to ISO 14000 used by industry, is moving along well, albeit more slowly than originally envisioned. Several ISO 14001 certified companies (BMW, Alumax, Westinghouse Savannah River Site) have offered their assistance as we move forward. The EMS will create a mechanism for continuous evaluation and improvement of university management, while at the same time providing valuable job skills for the students developing the system. At Clemson, work began in an academic department. The primary result of the first year’s effort was to conclude that facilities management, rather than an academic department, was the appropriate place to focus our work. At USC, work began in two divisions of operations. During the course of the first year’s effort, several significant issues were identified in one of the divisions, leading to substantive discussions between SUI personnel and facilities managers. Now, the students are both developing a procedure for identifying problems and working with SUI and operations managers to fix problems as they find them. While this is not the classic role of an EMS consultant, we believe it is simultaneously more satisfying for the students, more useful for the operations managers, and ultimately a faster way to decrease the university’s environmental impacts.

**Matching Funds** have enabled SUI to significantly influence campus facilities management by supporting pilot projects and by sparking interest in “greening the campus.” USC and MUSC recycling coordinators both used SUI funds in combination with state agency grants and university funds to make significant improvements. MUSC embarked on a major vermicomposting project, using food and laboratory waste to create compost for use on school grounds. Local media coverage of the project was picked up by the Associated Press, resulting in calls from all over the country. At USC, large outdoor recycling bins were purchased to fill in gaps in dormitory collection, adding to a package of state grant funded improvements which included a a bailer to increase cardboard recycling efficiency and a food composter at the student union. Student volunteers turn the composter daily, and the resulting material is used by campus groundskeepers. Facilities managers from Clemson and MUSC attended a Duke University Campus Sustainability Conference aimed at increasing environmental responsibility within physical operations. All returned with new ideas and a renewed sense of purpose.

**Students** gain job skills as well as academic knowledge by using the campus as a laboratory to solve real-world problems. Examples include identification of grassed areas on campus which could be converted to low-maintenance mulch or groundcover with no loss of use and significant monetary and emissions savings; organization of community groups and university faculty and students to plant trees and clean up creeks, development of a pilot dorm move-out collection of usable items (clothes, food, appliances) students would otherwise throw away and studies of water conservation, public transit, and recycling on campus. Students have also offered services to the external community on real world problems, including cooperation...
with the City of Columbia in a bus usage survey.

**STUDENT AND COMMUNITY ACTIVITIES**

Writing contests and prizes for environmental health presentations linked the curriculum with sustainability in non-traditional ways. Selected essays are featured on the SUI web page. Students from USC, Clemson and Furman participated in the EConference in Philadelphia, as well as in several local conferences. The existence of SUI seemed to spark a great deal of creative thought on the part of students, but we found that channeling that creativity and energy required a considerable amount of faculty or staff involvement.

We established the SC Sustainability Network, a group of approximately 45 state non-profit organizations and state agencies interested in sustainability. We’ve explored collaborations with various entities, notably the newly created Sustainability Institute and the associated Green Village Expo.

**SHARING WITH OTHERS**

Some of the most rewarding activities of Year 1 are the most difficult to capture. They involve the interactions we experienced at conferences, giving presentations, consulting with others doing similar work, and, of course, speaking with students. Our web site sparked inquiries from individuals around the country. The SUI was presented formally at several conferences and discussed informally at many others. We have found that colleagues at other institutions and members of the public are interested in our program and anxious to be supportive. At the same time, many people call seeking advice and ideas. Occasionally we’ll hear about our program from others, as when an English professor at Converse College in Spartanburg heard from a colleague in Georgia that “this SUI program you have is doing good things.”

**LEARNING**

We expected to act on knowledge and experience developed during the planning year, and we have. However, we’ve also continued to identify new allies, new problems and new opportunities. Perhaps most importantly, we’ve continued to discover more effective ways of working together, and of achieving our goals within the structure of university administration.