

Excerpt

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CAMPUS SUSTAINABILITY PRIMER

For Students, Faculty and Staff at the University of Redlands

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"I find the great thing in this world is not so much where we stand, as in what direction we are moving. To reach the port of heaven, we must sometimes sail with the wind and sometimes against it; but we must sail and not drift, nor lie at anchor."

-- Oliver Wendell Holmes

"...The time has come for the concept of sustainability – that is, meeting present needs without compromising the ability of future generations to meet their needs – to become a new central organizing focus for higher education."

-- Christopher Uhl and Amy Anderson
Bioscience, January 2001

The University of Redlands has a unique opportunity to become a regional leader in the practice and promotion of sustainability in higher education. Sustainability is becoming integral to the management and mission of higher education in the United States. To date, some 200 institutions have hired sustainability coordinators, formed campus sustainability committees, adopted sustainability curriculum requirements and launched hundreds of innovative sustainable practices that are saving these institutions money, enhancing their educational effectiveness, and reducing their environmental impact.

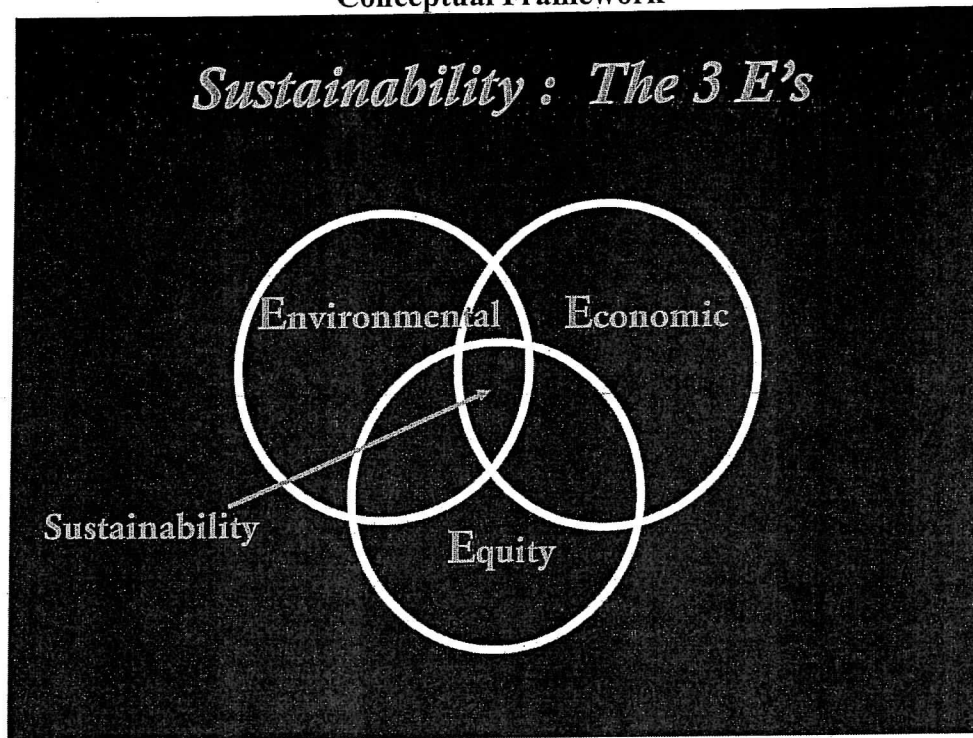
Liberal arts education in the 21st century will increasingly require attention to the interaction of social, economic, and environmental factors that provide the enduring necessities for healthy biotic and social systems. Sustainability is about securing those necessities, indefinitely, within the means of Nature, relying on human creativity, justice, and wise investment.

There are many definitions of the term *sustainability* in common use (see next page). Critics might characterize the term as a "sponge word," absorbing meaning in ways that defy precise definition. But *sustainability* is not alone in this regard. Terms such as *democracy*, *freedom*, and *community* suffer from the same lack of precision, yet they remain powerful in our society. In fact, it seems that our most precious words and ideas – from democracy to faith – share this combination of weakness and strength. Denise Lasch, a faculty member at the University of Oregon put it this way, "Sustainability is like love and democracy—multiple meanings, not always perfectly realized, but always struggled for, at least by most of us."

Most definitions focus on the grand intersection between environment, economics, and social justice, with the later term including *intergenerational justice*. An easy way to remember the concept is to think about the "3 E's": Environment, Economics, and Equity – all arranged as 3 overlapping circles, with sustainability representing their intersection (Figure 1).

Sustainability is fundamentally about preserving important choices for future generations. It necessarily involves questions of ethics, religion, politics, culture, science, technology, business, and many other foci of higher education. It is *not* and cannot become an academic discipline. Nor can it be considered the exclusive province of Environmental Studies or, for that matter, Economics.

Figure 1
Conceptual Framework



SUSTAINABILITY CONCEPTS AND DEFINITIONS

- Meeting the needs of the present without compromising the ability of future generations to meet their own needs. (Brundtland Commission)
- sus-tain-abil-i-ty [s&s-'stA-n&-'bi-l&-tE] noun 1: capability of being sustained; 2a: of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged <sustainable techniques> <sustainable agriculture> b: of or relating to a lifestyle involving the use of sustainable methods <sustainable society> circa 1727 Merriam-Webster
- America's challenge is to create a life-sustaining Earth, a future in which prosperity and opportunity increase while life flourishes and pressures on the oceans, Earth and atmosphere diminish. (President's Council on Sustainable Development" – Clinton Administration)
- ...an economy and way of life in which both people and nature flourish, a culture that can last. (Northwest Environmental Watch)
- creating new ways to live and prosper while ensuring an equitable, healthy future for all people and the planet (Natural Step website).
- The ability to provide for the needs of the world's current population without damaging the ability of future generations to provide for themselves. When a process is sustainable, it can be carried out over and over without negative environmental effects or impossibly high costs to anyone involved.
www.sustainabletable.org/intro/dictionary/
- A concept and strategy by which communities seek economic development approaches that benefit the local environment and quality of life. Sustainable development provides a framework under which communities can use

resources efficiently, create efficient infrastructures, protect and enhance the quality of life, and create new businesses to strengthen their economies. ...
www.ci.austin.tx.us/zoning/glossary.htm

- The ability of an ecosystem to maintain ecological processes and functions, biological diversity, and productivity over time.
www.umpqua-watersheds.org/glossary/gloss_s.html
- Sustainability is an economic, social, and environmental concept. It is intended to be a means of configuring civilization and human activity so that society and its members are able to meet their needs and express their greatest potential in the present, while preserving biodiversity and natural ecosystems, and planning and acting for the ability to maintain these ideals indefinitely. Sustainability affects every level of organization, from the local neighborhood to the entire planet. en.wikipedia.org/wiki/Sustainability
- A sustainable system is one where the amount of output from the system does not exceed the amount of input. Put another way: for a practice to be sustainable it must not use up any resource faster than that resource can be replaced. <http://www.sustainabilityresearch.com/Thoughts/AnaDefSustain/index.php>
- Sustainability - the ability of natural resources to provide ecological, economic, and social benefits for present and future generations. <https://www.uwsp.edu/natres/nres743/Definitions/Sustainability.htm>
- Sustainability is a process of balancing the needs of a population with the capacity of an environment to support it. (aherwitz) <http://bfi-internal.org/sustainability/node/44>
- Imagine, if you will, three overlapping circles—one representing economic needs, one representing environmental needs and one representing community social needs. The area where the three circles overlap is the area of sustainability, the area of livability—the area where all the threads of quality of life come together (Oregon Governor Kitzhaber, in a public address titled "Can We Have It All?")
- Sustainability is like love and democracy—multiple meanings, not always perfectly realized, but always struggled for, at least by most of us. I think we do agree, basically, on what it is. We disagree when we must make specific choices in our lives. I think the major questions are: Who does not want a sustainable society? Why? (Denise Lasch, U of Oregon)
- Sustainability achieves vitality and well-being for all through responsible planning and management of interdependent social, environmental and economic capacities. (Toronto Sustainability Roundtable)
- The long-term health and vitality of economic, ecological, and social systems. (Sustainable Seattle)
- The ability of a system (society, ecosystem, business) to continue functioning into the indefinite future without being forced into decline through exhaustion of key resources. (The Context Institute)

Sustainability in Practice

Sustainability is not just about the wise management of energy, water, waste, and pollution; it is about a holistic way of thinking—a way of seeing the world through multiple lenses of ecological integrity, social equity, and economic vitality. It is fundamentally about our society's bequest of social and environmental wealth for future generations. As such, it is a powerful force for integration, weaving together science, ethics, policy, and management in the pursuit of knowledge that *sustains*.

In a more practical way, campus sustainability is about the design of buildings and interdisciplinary curricula. Many institutions have adopted green building practices, and with the completion of Lewis Hall in 2005, the University of Redlands joined the ranks of these model institutions, demonstrating that building green not only reduces the University's ecological footprint, but also provides a

living/learning laboratory for both students and the surrounding community. The University should not miss the opportunity to capitalize on the excitement generated by Al Gore's speech, the dedication of Lewis Hall, the commitment to energy conservation reflected in the new co-generation plant, the proposal for a native plants demonstration garden and field station ("Centennial Heritage Garden"), the very popular Outdoor Life Program, new initiatives within the School of Business to integrate sustainability into business education, and a host of student-initiated projects and proposals to "green" the campus (e.g., "Green Cup" energy conservation competition). Additional opportunities come in the form of curricular enrichment and collaboration across many disciplines on campus.

Harnessing and preserving the momentum created by Gore's visit, the opening of Lewis Hall and other initiatives is certainly reason enough for Redlands to formally launch its sustainability program at this time, but perhaps the most important reason we should act now is the rapid convergence of environmental, social, and economic evidence that current forms of growth and development are not sustainable. Rapidly mounting scientific evidence confirms that major environmental and climate systems are being disrupted by unsustainable production and consumption systems, at rates and magnitudes that are unprecedented in human history. In a speech in January before members of the National Council on Science and Environment, Ralph Cicerone, President of the National Academy of Sciences, noted that the latest climate studies published in *Nature*, *Science*, and other leading journals leave no reasonable doubt about the need to respond swiftly to humanly-induced changes in climate. Released in mid-2005, the Millennium Ecosystem Assessment, a 5-year study of global ecological health, conducted by 1,400 leading scientists from 95 countries, warned that 12 of 13 major ecosystems are showing increasing degradation and decreasing ecological resilience, thereby threatening future quality of human and non-human life in many regions of the world. Recent studies of social change and inequality are no less alarming. From the latest report on the Global Hunger Index to studies tracking the rise in childhood obesity, our society does not appear to be coping well with the basic needs for improving quality of life.

Recent reports on the concentration of global wealth, U.S. war strategies, accelerating Arctic warming, the crisis in Sudan, environmentally-related pandemics, and increasing amounts of toxic chemicals found in newborns, all indicate that the challenges we face in the 21st century are profoundly tied to issues of intergenerational health, welfare, and ethics—the central intellectual concerns of sustainability.

With over 4,000 colleges and universities in the U.S. and approximately 15 million students, educating future leaders about the uses and limitations of sustainability concepts will not be easy. It will depend initially on the vision and agility of a small number of institutions – places where education for sustainability becomes central to the core mission and function of the faculty, administration, students, and facilities managers.

A quote from the Campaign for Environmental Literacy's website summarizes this mission and function:

Higher education has the critical mass, diversity of skills, and unique academic freedom to develop new ideas and technologies; to conduct critical research; to raise the level of discourse regarding society and its challenges; and to engage in experimentation in sustainable living. Higher education also prepares most of the professionals who develop, lead, manage, teach, work in and influence society's institutions. It also engages in

institutional operational practices that, as a whole, have enormous (but largely invisible) economic, social and environmental footprints.

The institutionalization of sustainability that is needed involves the university's dual role in educating future leaders and developing a physical environment that can "showcase" innovation in thought and practice. With annual expenditures in the U.S. nearing \$300 billion, the role of higher education in achieving a more sustainable society is as much about setting an example in facilities design and operations as it is about curricular reform. The combined expenditures of American institutions of higher education exceed the GDP of all but 25 nations. The steps these colleges and universities take toward achieving sustainability will be influential examples that no other institution--business, government, religious, or cultural--can hope to match.

Institutional Benefits

The value of a campus sustainability program at the University of Redlands consists of both educational and financial benefits--some of them immediate and concrete, others intangible. Foremost among the intangible values are the opportunities to demonstrate leadership and social responsibility. Also important in this regard are the public relations benefits, the grateful support from many alumni, students and faculty, the advantages for curriculum relevance and educational value, and the sense of progress in moving forward in what the United Nations has just declared the "Decade of Education for Sustainable Development" (2005-2014). Any campus that is dedicated to new ideas and bold experimentation will want to consider sustainability as a core organizing principle.

Financial benefits include potential savings in energy, water, and other resources, hedges against the price volatility of conventional fuels and water supplies, and the prospects of significant income from donor groups normally beyond the reach of Redlands. Of special importance in this last regard is the West Los Angeles-Hollywood community. Significant wealth from this community has been directed in recent years at sustainability projects and related image-building efforts, and with a visible sustainability program, Redlands could play a part in such efforts.

Beyond the benefits to the University are the vital and more important services such programs promise for society, at large. A sustainability emphasis at Redlands will help us to prepare society's leaders and professionals, while perhaps instilling an important new direction in both our undergraduate teaching and in our professional programs in Business and Education. The indirect influence on K-12 education may be the single most important reason for adopting sustainability concepts at the university level.

Examples of Recent Campus Sustainability Initiatives

A sample selected by Monty Hempel from across North America, using the AASHE data base: www.aashe.org

Aquinas College

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Governance & Administration

In Fall 2005 Aquinas initiated a process involving representatives of its three governance bodies and the Board of Trustees, assisted by the SB faculty, to design Aquinas' Sustainability Initiative. After exploring various options, it was decided that each body (Faculty Assembly, Staff Assembly, Student Senate) would create their standing committee with the shared, "triple bottom line" mission to redesign Aquinas as a place where people "love to work and learn." Our three respective sustainability committees and a Joint Sustainability Committee (established in Spring 2006) will coordinate the innovative "redesign" effort through an engaging innovation process that will open all practices, procedures and facilities of Aquinas to a potential "redesign" toward sustainability beginning Fall of 2006. SB student teams will serve as resources for the committees and aid individuals with ideas for redesign. SB student teams as well as the Center for Sustainability Program Director Jessica Eimer will also be engaged in furthering an inventory of existing practices and facilities.

As part of the Sustainability Initiative education process, Janine Benyus delivered a campus-wide lecture in March. The campus effort ties to the Community Sustainability Partnership, which was signed by Aquinas' President (see Community Service and Outreach).

Operations

Aquinas, through its Sustainability Initiative, is currently examining its operations through the sustainability inventory. We are expecting that this will identify key areas for improvement through a thoughtful design of a campus-wide transition. In addition to this effort, a new 50,000 sq. ft. library is nearing completion (September 5, 2006) and will seek LEED certification. The library is an extension of an existing building, the Jarecki Center for Advanced Learning which was constructed with energy conserving/generating photovoltaic (PV) solar roof panels.

Additionally, Aquinas will divert its food waste beginning in Fall 2006 as part of a pilot composting project being undertaken (See Community Service & Outreach). Our food service contractor will also be providing increased local and/or organic food in its cafeteria offerings.

Electronics recycling was also conducted in Spring 2006 in conjunction with CompRenew, a local NGO. Approximately 5813 pounds of potential electronic waste was diverted from landfilling.

Curriculum & Research

Aquinas features one of the country's first and only (and to our knowledge) four-year undergraduate Sustainable Business (SB) program. The program is an outgrowth of the SB concentration which was developed in August 2003. Since February 2005, when the Sustainable Business program was established as its own department, the number of undergraduate majors has grown to nearly 50 students (Fall 2006). This places our program in the top third of Aquinas' academic majors. SB students undertake a rigorous course of study in Sustainable Business as well as three concentrated areas of coursework (traditional science and business as well as environmental studies) in addition to general education requirements. SB course offerings include Industrial Ecology, Sustainable Business Management, Sustainable Energy Systems, Building Social Capital and others. The major was developed by Dr. Matt Tueth in consultation with a 13-person Sustainable Business External Advisory Committee (involving area businesses and civic leaders), as well as the Biology, Chemistry and Business Departments of Aquinas. Dr. Tueth currently serves as Chair of the Department and Steelcase Foundation Professor of Sustainable Business. Dr. Deb Steketee was added as a second faculty member in August of 2005.

In addition to the four-year curriculum, an undergraduate certificate program is offered through the Sustainable Business program, as well as a concentration (four course requirement) in Sustainable Business in our Master of Management program. Other notable academically-related activities have included a campus-wide lecture and classroom visit by *Biomimicry* author Ms. Janine Benyus in March 2006, as well as an on-campus biomimicry workshop open to SB students, Aquinas faculty and staff and our SB advisory committee. Our SB Department, along with the Jane Hibbard Idema Women's Center at Aquinas also hosted a free public event featuring a panel of four female "green entrepreneurs" including Ms. Benyus. Additionally, the SB Department funded a faculty-led visit of 12 students to the Charlottesville, VA offices of Mr. William McDonough in the Summer of 2006. This visit included a session with this renowned author and leading sustainability proponent.

SB students have also been actively engaged in launching Aquinas' Sustainability Initiative, including gathering information for a campus-wide of baseline inventory of our practices and campus facilities as well as classroom visits as part of our effort to transition toward sustainability. This effort will have increased attention in 2006 as we work with our new governance structure which intends to embed sustainability principles throughout our college's decision-making and operations.

In January 2005, Aquinas was also successful in securing a five-year \$1 million grant from the Steelcase Foundation to help grow our Sustainable Business academic program and related on-campus sustainability activities. Other grants have included a five year \$100,000 award from the Wege Foundation.

Community Service and Outreach

Aquinas has been working on many fronts with innovative sustainability projects involving high levels of community collaboration and outreach. In August 2005, Aquinas launched the Center for Sustainability, including a web-based clearinghouse of information and programming related to sustainable commerce and community. A full-time program director and Sustainable Business Department graduate Jessica Eimer, was hired in January 2006. The Center's Executive Director is an SB Department faculty member. Sustainable business information and resources are also nested within this broader attention to sustainability, documenting business sustainability initiatives in a variety of industries. Sustainable business students have been actively involved in the Center's web design and information gathering. Funded efforts are currently underway to further develop non-credit sustainable business workshops and learning laboratories which will engage area businesses with SB faculty and students as the Center