International Efforts to Promote Higher Education for Sustainable Development

Initiatives vary widely, but examples demonstrate a growing commitment to education that promotes solutions to real problems in an increasingly interdependent world.

by **Wynn Calder and Richard M. Clugston**

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From August 26 to September 4, 2002, representatives of most countries and sectors of the world gathered in Johannesburg, South Africa, for the World Summit on Sustainable Development (WSSD). This summit took place on the 10th anniversary of the 1992 Earth Summit in Rio de Janeiro, and on the 30th anniversary of the first United Nations summit that recognized the importance of environmental issues—the United Nations Conference on the Human Environment in Stockholm. Over the past 10 years, many United Nations summits have been held, focusing on population, social development, women, cities, food, and other topics. Each has added more insights to our understanding of sustainable development. Despite all these efforts on behalf of sustainability, most social and environmental trends have grown worse. In the midst of our failures, however, we are making progress in understanding how to create a sustainable future: the theoretical framework and practical models are being clarified; the knowledge, skills, and sensibilities are emerging. The direction we need to go is becoming clearer.

Various nations and many institutions are taking the challenge of sustainable development seriously. Education for sustainable development (ESD), although low on most

national priority lists, has been steadily gaining attention and support since the Rio Earth Summit. While the WSSD produced mixed results, the cause of education had some significant outcomes, including the official recommendation to the United Nations General Assembly that it adopt a decade of education for sustainable development beginning in 2005. Internationally, higher education for sustainable development (HESD) initiatives in several countries are notable for their significant levels of government support and for their comprehensive commitment to sustainable development in its environmental, social, and economic dimensions. This article will examine the history of HESD abroad and offer examples of HESD in countries and institutions from both the global North and South. These initiatives vary widely depending on the culture, economic conditions, and environmental demands of the places in which they occur. But every example demonstrates a growing commitment to education that promotes solutions to real problems in an increasingly interdependent world.

History of HESD on the International Stage[1]

Since the Stockholm conference in 1972, there has been growing international interest in the role of higher education in fostering a sustainable future. Agenda 21 (the document developed at the Rio Earth Summit) and a series of HESD declarations and conferences in the 1990s made this agenda explicit. (Figure 1 lists many relevant international conferences and events, a few of which are discussed in this article.) This section looks at the influence of international documents and conferences in shaping and defining the concept of sustainability in higher education.

The relationship between education and sustainable development was first recognized on an international level at the Stockholm conference. In 1977, the Intergovernmental Conference on Environmental Education in Tbilisi[2] produced the first international declaration on environmental education.[3] The Tbilisi Declaration promoted environmental teaching, research, and training as well as technical and vocational education. It also recognized the essential interdisciplinary nature of environmental education.

The term "education for sustainable development" emerged primarily out of the Rio Earth Summit and, for many educators, is defined more broadly than "environmental education" to include issues of international development, cultural diversity, and social and environmental equity. We use the term "higher education for sustainable development" both for its broader implications and for its explicit reference to the goals of the Rio Earth Summit and the WSSD.

Agenda 21 and subsequent international conferences. Aside from the word "government," "education" appears more often than any other term in Agenda 21. Education underlies and has the potential to reinforce every other priority in this extensive blueprint for a sustainable world. Chapter 36 of Agenda 21, on "Promoting Education, Public Awareness and Training," states that "[e]ducation is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues" (United Nations Conference on Environment and Development 1992, ¶ 36.3).

Chapter 36 makes brief but specific reference to universities and colleges and their role in building a sustainable future. It also refers to most of the major priorities of HESD today: cross-disciplinary curriculum development on sustainable development, scientific and other sustainability-related research, and outreach and multistake-holder network formation promoting environmental awareness and sustainability.

Since 1996, the United Nations Commission on Sustainable Development (CSD)[4] and the United Nations Educational, Scientific and Cultural Organization (UNESCO), the task manager for Chapter 36, have promoted HESD in various official documents and conferences. An International Work Program on Education, Public Awareness and Training for Sustainability was initiated at the fourth session of the CSD in 1996 to give added impetus and visibility to the themes of Chapter 36. The Work Program was further elaborated at the sixth session of the CSD in 1998, which stressed for higher education the reorientation of formal educational systems and interdisciplinary approaches to teaching and research (United Nations Commission on Sustainable Development 2000).

The CSD Work Program was reemphasized at the major World Conference on Higher Education in October 1998. Hosted by UNESCO, the conference concluded with the adoption of the World Declaration on Higher Education for the 21st Century: Vision and Action. Though the term "sustainable development" does not appear often in this ambitious 13-page document, the declaration proclaims education to be the "fundamental pillar of human rights, democracy, sustainable development and peace" (United Nations Educational, Scientific and Cultural Organization 1998). In the first sentence of Article 1, it affirms that

Figure 1 **Significant Events and Declarations in Higher Education for Sustainable Development**

Year	Event/Declaration
1972	Stockholm Declaration on the Human Environment, United Nations Conference on the Human Environment, Sweden www.unep.org/Documents/Default.asp?DocumentID=97
1975	The Belgrade Charter, Belgrade Conference on Environmental Education, Yugoslavia eelink.net/FCCSET/EndNotes.html
1977	Tbilisi Declaration, Intergovernmental Conference on Environmental Education, Georgia www.gdrc.org/uem/ee/tbilisi.html
1989	National Wildlife Federation's Campus Ecology program (formerly known as Cool It) founded www.nwf.org/campusecology/index.cfm
1990	Talloires Declaration, Presidents Conference, France www.ulsf.org/programs_talloires.html
1990	National Council for Science and the Environment (originally the Committee for the National Institute for the Environment) founded www.ncseonline.org
1991	Halifax Declaration, Conference on University Action for Sustainable Development, Canada iisd.ca/educate/declarat/halifax.htm
1991	World Resources Institute's Sustainable Enterprise Program (formerly the Management Institute for Environment and Business) founded www.wri.org/wri/meb/
1992	Report of the United Nations Conference on Environment and Development; Chapter 36: Promoting Education, Public Awareness and Training www.un.org/esa/sustdev/agenda21chapter36.htm
1992	Association of University Leaders for a Sustainable Future founded www.ulsf.org
1993	Kyoto Declaration, International Association of Universities Ninth Round Table, Japan iisd1.iisd.ca/educate/declarat/kyoto.htm
1993	Swansea Declaration, Association of Commonwealth Universities' Fifteenth Quinquennial Conference, Wales iisd1.iisd.ca/educate/declarat/swansea.htm
1993	Copernicus University Charter, Conference of European Rectors (CRE) www.copernicus-campus.org/

1993	Second Nature founded www.secondnature.org/
1994	Blueprint for a Green Campus, Yale University Campus Earth Summit www.princeton.edu/~rcurtis/earthsum.html
1995	Workshop on Implementing Sustainable Development at the University Level in Bradford, United Kingdom www.fns.uniba.sk/zp/greenway/26/3.htm
1995	Essex Report: Workshop on the Principles of Sustainability in Higher Education in Essex, Massachusetts www.secondnature.org/history/writings/articles/essex_report.html
1996	The International Work Programme on Education, Public Awareness and Training for Sustainability adopted by the U.N. Commission on Sustainable Development www.un.org/esa/sustdev/edu.htm
1996	Ball State University Greening of the Campus conferences (also 1997, 1999, and 2001) www.bsu.edu/provost/ceres/greening
1997	Thessaloniki Declaration, International Conference on Environment and Society: Education and Public Awareness for Sustainability, Greece www.mio-ecsde.org/Thess/TOCThess.htm
1998	World Conference on Higher Education, Paris, France www.unesco.org/education/educprog/wche/eng.htm
1999	World Conference on Science, Budapest, Hungary www.unesco.org/science/wcs/
2000	World Education Forum (Education for All), Dakar, Senegal www2.unesco.org/wef/en-conf/index.shtm
2001	Lüneburg Declaration on Higher Education for Sustainable Development, Germany www.lueneburg-declaration.de/downloads/declaration.htm
2002	World Summit on Sustainable Development in Johannesburg, South Africa (Type 1 outcome: decade of education for sustainable development; Civil Society outcome: the Ubuntu Declaration) www.johannesburgsummit.org/

"the core missions and values of higher education, in particular the mission to contribute to the sustainable development and improvement of society as a whole, should be preserved, reinforced and further expanded." Although these statements are general in nature, they unequivocally declare sustainable development to be the moral duty of higher education.

The CSD and UNESCO have consistently emphasized an interdisciplinary approach to teaching and learning in higher education, the reorientation of teacher education to reflect this priority, and networking between universities to share information and promote best practices. Outside Agenda 21 of the United Nations process, major efforts to influence and articulate what Chapter 36 implies for higher education occurred through various international declarations and conferences in the 1990s.[5]

International HESD declarations. Starting in 1990, university representatives convened several conferences around the world and produced a series of internationally recognized declarations focusing on HESD and calling their institutions to action. They are all remarkably similar in nature, reflecting an international consensus on priorities for the reform of higher education.

In October 1990, university leaders made a significant effort to define and promote sustainability in higher education with the creation of the Talloires Declaration. Jean Mayer, then-president of Tufts University, hosted 22 presidents, vice chancellors, and rectors from universities around the world at a conference in Talloires, France, to discuss the role of universities in shaping a sustainable future and to provide input for the Rio Earth Summit.[6] Recognizing the shortage of specialists in environmental management and related fields, as well as the lack of comprehension by professionals in all fields of their effect on the environment and public health, the participants defined the role of the university in the following way: "Universities educate most of the people who develop and manage society's institutions. For this reason, universities bear profound responsibilities to increase the awareness, knowledge, technologies, and tools to create an environmentally sustainable future" (Association of University Leaders for a Sustainable Future 1990, p. 2). More than 290 university presidents and chancellors at institutions in more than 40 countries have signed the Talloires Declaration, a 10-point voluntary action plan for building a sustainable university.

University leaders and organizations from around the world created other official declarations: The Halifax

Declaration (December 1991), like the Talloires Declaration, was part of preparation for the Rio Earth Summit. It was also meant for institutional endorsement and emphasized teaching and practicing sustainable development. It incorporates an action plan outlining short- and long-term goals for Canadian universities (Lester Pearson Institute for International Development 1992). The Swansea Declaration (August 1993), of the Association of Commonwealth Universities, stressed the "mutual vulnerability of all societies, developed and developing" and the need for people to work together cooperatively (Association of Commonwealth Universities 1993). The Copernicus University Charter (fall 1993) was also intended for institutional endorsement. It made reference to the Talloires Declaration, the Halifax Declaration, and the Rio Earth Summit and stressed environmental literacy for students, faculty, and staff; public outreach; and "interdisciplinary networks of environmental experts at the local, national, regional and international level" (Conference of European Rectors (CRE)-Copernicus 1993). The Kyoto Declaration, adopted by the International Association of Universities in November 1993, stressed the ethical obligation of universities to reform and recommended specific institutional plans of action (International Association of Universities 1993). The Thessaloniki Declaration (1997) resulted from an international ESD conference, titled "Environment and Society: Education and Public Awareness for Sustainability," organized jointly by UNESCO and the government of Greece. It highlights that poverty reduction is a necessary condition for sustainability and affirms that the reorientation of education requires that all disciplines address sustainable development through "a holistic, interdisciplinary approach" (United Nations Educational, Scientific and Cultural Organization 1997; Wright 2002).

Collectively, these declarations emphasize promoting sustainability in all relevant academic disciplines; research on sustainable development issues; the "greening" of university operations; engaging in interuniversity cooperation; forming partnerships with government, nongovernmental organizations (NGOs), and industry; and, most consistently, the moral obligation of higher education to work for a sustainable future (Wright 2002). All of the priorities in Chapter 36 of Agenda 21 are reaffirmed in these documents. To date, more than 1,000 universities have signed onto the three declarations written for institutional endorsement: the Talloires Declaration (managed by the Association of University Leaders for a Sustainable Future); the Kyoto

Declaration (managed by the International Association of Universities); and the Copernicus University Charter for Sustainable Development (managed by COPERNICUS-Campus, formerly a program of the Association of European Universities). Roughly one-third of these signatory institutions are from the global South, and one-fifth from countries in the former Soviet Union and Warsaw Pact nations.

The WSSD and HESD. On September 4, 2002, after a protracted and difficult drafting process, the WSSD released its *Political Declaration* and *Plan of Implementation* (United Nations 2002). (To find out more about the WSSD and to read these documents, go to www.johanneburgsummit.org/.)

Many delegates to the WSSD regarded these outcomes as weak, last-minute compromises that will result in little progress toward sustainability. ESD and the crucial role of education (and educators as a stakeholder group) in assisting in the transition to a sustainable future were not major themes in the *Political Declaration* or the *Plan of Implementation*. However, the WSSD provided opportunities for stakeholders committed to higher education to clarify goals and further develop partnerships and their own plans of implementation. Summarized below are significant developments at the WSSD related to HESD.

Article 117 of the *Plan of Implementation* articulates the governments' commitments to ESD, including support for urgent actions at all levels to do the following:

> (a) Integrate information and communications technology in school curriculum development . . . ;
> (b) Promote, as appropriate, affordable and increased access to programmes for students, researchers and engineers from developing countries in . . . developed countries in order to promote the exchange of experience and capacity that will benefit all partners;
> (c) Continue to implement the work programme of the Commission on Sustainable Development on education for sustainable development;
> (d) Recommend to the United Nations General Assembly that it consider adopting a decade of education for sustainable development, starting in 2005. (United Nations 2002, p. 62)

In a significant achievement, the decade was officially adopted on December 20, 2002. Preparation for and implementation of this decade provides a strong focal point for collaboration. One lesson from the WSSD is that many are not ready to make the transition to sustainable development. A significant educational effort is crucial to providing the understanding, skills, and motivation necessary to make this priority central to policy and practice. The adoption of a decade of education for sustainable development recognizes that education is indeed a significant priority for the realization of sustainable development, even though it was the "lost priority" in the decade from Rio to Johannesburg.

UNESCO, the Earth Charter, and the Ubuntu Declaration. On September 2–3, 2002, the South African Department of Education and UNESCO hosted an event at the WSSD titled "Educating for a Sustainable Future: Action, Commitments and Partnerships." Here, UNESCO announced a major Type 2 Partnership[7]: the Global Higher Education for Sustainability Partnership (GHESP), involving the Association of University Leaders for a Sustainable Future, COPERNICUS-Campus, the International Association of Universities, and UNESCO. GHESP seeks to develop and share effective strategies, models, and best practices for promoting higher education for sustainability, and to analyze experience thus far in order to make recommendations in consultation with key northern and southern stakeholders. Information about the ongoing work of GHESP is available at www.unesco.org/iau/ghesp.

During the same event, South Africa's Minister of Education launched the South African version of UNESCO's multimedia teacher education program: Teaching and Learning for a Sustainable Future. This program contains 100 hours of professional development material for use in preservice teacher courses as well as the in-service education of teachers, curriculum developers, education policy makers, and authors of educational materials. The program is designed to enable educators to help students develop and evaluate alternative visions of a sustainable future and work creatively with others to help bring their visions of a better world into effect.[8]

A report prepared for the WSSD by UNESCO and the International Work Program on Education, Public Awareness and Sustainability of the CSD contributed substantively to discussions on ESD at the summit. The higher education section of this report, titled "Education for Sustainability—From Rio to Johannesburg: Lessons Learnt from a Decade of Commitment," identifies key lessons for

success in implementing policies and practices that achieve sustainable outcomes in colleges and universities, which include the following:

- A demonstration of commitment from senior executive: Full, visible and tangible support from senior university executives is critical to success in implementing sustainability strategies. A clear signal can be sent to the university community by becoming a signatory to one of the key declarations on sustainability in higher education (e.g. Talloires, CRE-COPERNICUS, Kyoto, etc.)
- A "triple-bottom-line" perspective: sustainable universities focus not only on efforts to "green" the curriculum and their management practices but also on measures to promote social and economic sustainability.
- A sustainability strategy: universities that are successful tend to have a comprehensive strategy for sustainability that has been negotiated and agreed through the university's decision-making structures.
- Implementation and cultural change: the likelihood of sustainability strategies leading to real outcomes depends on successful cultural change across a university and developing appropriate attitudes and skills among students and administrative and academic staff.
- Monitoring and evaluation: a process for regular monitoring and evaluation and reporting is vital to ensuring continuous and effective implementation. (United Nations Educational, Scientific and Cultural Organization 2002a, pp. 39–40)

Another significant education-related Type 2 Partnership launched at the WSSD is called Educating for Sustainable Living with the Earth Charter. Partners include the governments of Costa Rica, Honduras, Mexico, and Niger; UNESCO; and numerous international NGOs. The Earth Charter is a declaration of fundamental principles for building a just, sustainable, and peaceful global society in the 21st century. Seen by many as the unfinished business of the Rio Earth Summit, the Earth Charter was created through a decade-long, multicultural dialogue and was completed in 2000. (To view the Earth Charter and learn more about it, see www.earthcharter.org or www.earthcharterusa.org.)

The major goal of the Earth Charter partnership, according to its proposal (see www.johannesburgsummit .org/html/sustainable_dev/p2_means_implement/3009_edu _earthcharter.pdf), is as follows:

> To provide education and training for local leaders and communities regarding the fundamental principles of sustainable development, and how to incorporate these principles into decision making processes. The Earth Charter will be employed as the primary educational instrument in this process. Toward this end the Earth Charter will be integrated into professional training and community development programs as a guiding framework for implementing sustainable development. (P. 2)

Among the notable declarations to emerge from the WSSD, the Ubuntu Declaration is particularly significant for higher education.[9] This declaration calls for greater global emphasis on ESD, the strengthening of science and technology education, and international partnerships to accomplish these goals. Issued collectively by the United Nations University, UNESCO, the African Academy for Science, GHESP (and its individual members), the Science Council of Asia, the Third World Academy of Sciences, and the World Federation of Engineering Organizations, the Ubuntu Declaration concludes with the resolve to

> work towards a new global learning space on education and sustainability that promotes cooperation and exchange between institutions at all levels and in all sectors of education around the world. This space must be developed on the basis

of international networks of institutions and the creation of regional centers of excellence, which bring together universities, poly-techniques, and institutions of secondary education and primary schools. We invite all other responsible stakeholders to join us in this endeavor. (World Summit on Sustainable Development 2002)

This declaration is particularly important because it brings together so many crucial stakeholders from the North and South.

These various higher education efforts will become more closely integrated over the next few years and will join together in a major global initiative to advance the decade of education for sustainable development, in cooperation with other levels of formal and informal education. Agenda 21, UNESCO, and CSD documents and conferences, various other international events,[10] and the numerous reports and declarations they produced reflect the analysis and concerns of many constituencies in different regions of the world over the last 10 years. Their understandings of the agenda for higher education to support sustainable development are remarkably similar. They agree, with only few exceptions, upon a very similar ideal type of college or university, which transforms its teaching, research, outreach, and operations to support sustainable development.

International Examples of HESD in Action

There are hundreds of examples worldwide of colleges and universities that have committed themselves to HESD and transformed various dimensions of their academic and institutional lives accordingly. Unlike the United States, many international initiatives (a) receive significant government support and (b) embrace the social, economic, and environmental dimensions of sustainable development (often referred to as the triple bottom line). In some European countries, such as Holland, the higher education sector has enacted comprehensive initiatives to create eco-efficient buildings and grounds and to link education and research to community sustainable development efforts. In Costa Rica, the Philippines, and Tanzania, national

efforts to promote sustainable development often involve working closely with leading colleges and universities.

Northern Examples: Holland, Germany, Canada, and the United Kingdom.[11] Holland is unusually strong among European countries in its commitment to HESD. It is fair to say that the movement in this country began with students. In 1995, student groups from several Dutch universities formed the Dutch National Environmental Student Platform to foster greater collaboration and information sharing and focus primarily on promoting sustainable campus operations and curriculum reform. In 1998, the Student Platform broadened its membership and agenda and transitioned into the present Dutch Network for Higher Education and Sustainable Development. The network is coordinated by the Steering Committee on Sustainability in Higher Education (CDHO), which now includes university faculty, staff, and students as well as university board members and rectors and representatives from various ministries. The committee's essential role is to promote and organize projects to improve HESD at both the individual institutional level as well as the national level. Through direct lobbying with members of the Dutch parliament and ministerial contacts, the CDHO raised nearly $400,000 between 2000 and 2002.[12] Those projects include the following:

- *Disciplinary reviews.* Produced a series of small books reviewing successes in incorporating sustainable development concepts into various disciplines (e.g., biology, economics, math, management, physics).

- *Interdisciplinary study projects.* Organized various interdisciplinary student projects (bringing students together from different universities), and published their conclusions.

- *North/South collaborations.* Organized projects for students from Holland and Third World countries (mainly Africa).

- *AISHE consultancy.* Developed a set of criteria for HESD and an assessment instrument now referred to as the auditing instrument for sustainability in higher education (AISHE) (Roorda 2002a).

- *HESD master's programs.* Brought the developers and leaders of various sustainability-related master's programs together.

- *University operations.* Guided by an external expert on sustainable energy (paid by the Ministry of Economic Affairs), a group of universities started a joint project

in fall 2002 to implement new governmental Sustainable Energy Regulations prescribed for industry, universities, and others. The goal is to create a complete environmental management system in participating universities.

- *Biannual awards.* Encouraged the Ministry of Environment to organize national awards for eminent successes in sustainability. Award categories include universities for professional education (the "hogescholen") and research universities.

Another Dutch group, the Foundation for Sustainability in Higher Education, formed in 1999 because of dissatisfaction with the Copernicus University Charter and the absence of compulsory requirements to demonstrate accountability (noted above in the discussion of international declarations). The foundation decided to create its own charter, the Handvest voor Duurzaam HBO (Charter for Sustainability in Higher Professional Education), which includes a protocol containing concrete expectations for action. The protocol is renewed every two years with stronger requirements so that signatory institutions will steadily improve their teaching and practice for sustainable development.

To date, more than 30 of the 50 hogescholen have signed the Handvest (research universities are not yet involved in this effort). If the hogescholen succeed in meeting protocol demands, they earn a Keurmerk voor Duurzaam Hoger Onderwijs (certificate for sustainability in higher education). So far, about 10 hogescholen have done so. In general, the HESD movement has been far more successful in the professional universities than in the research universities. One reason may be that the hogescholen are strongly tied to industry, and industry has made it clear that it is interested in sustainability-literate employees. Even so, it is anticipated that the Keurmerk will be awarded to research universities in the near future (Van Mansvelt 2002).

According to one Dutch proponent of HESD, success in Holland can be attributed to at least three factors:

- Cooperation between all relevant parties: universities, representatives of government ministries, centers of expertise, and industry (which is closely tied to the hogescholen)
- The political and cultural climate in Holland, which is sustainability minded (due partly to the fact that this country is dealing with real and pressing concerns such as high density and climate change)
- The pragmatic nature of the Dutch people, who, rather than spend years philosophizing about how things should be done, tend to learn by doing (Roorda 2002b)

Universities in Germany tend to act more independently for sustainable development, with less evidence of networking and information sharing than in Holland. A few German schools, such as Hamburg Technical University, are engaged in significant community and partnership initiatives. On the local level, a continuing education program, supported by the European Social Funds and the German Ministry of Labor, is training about 20 students each year from the social and natural sciences for employment at local businesses and organizations to work on sustainable development issues after graduation. In this program, students are taught computer skills for using environmental software and environmental management techniques.

Hamburg Technical staff and faculty are also helping with the development of a "Sustainability Centre" in the city of Hamburg. This $20 million project is supported by a combination of European Union (EU) funds, city funds, and private capital. It will research and promote sustainable practices such as sustainable purchasing, sustainable agriculture, and fair trade.

At the regional level, Hamburg Technical acts as the German office for the Baltic University Program (BUP), primarily funded by the Swedish Development Agency and the Swedish Institute, which handles some EU project-related funds. Started in 1991, BUP provides environmental course content to universities in Central and Eastern Europe. Given the critical lack of good learning materials in this part of the world, the program organizes conferences and workshops and generates both course modules and video productions on a variety of sustainable development topics. BUP is the largest environmentally oriented university network in the world, with approximately 170 member universities in 12 countries. So far, it has reached more than 10,000 students in the region.

Hamburg Technical also leads an EU-funded project in which approaches toward incorporating a sustainable development dimension within teaching programs are shared and developed among universities in Germany, Holland, Spain, and Sweden (from the North) and Brazil, Costa Rica, Nicaragua, and Venezuela (from the South).[13]

The project encourages information sharing and supports faculty exchanges. A major goal is to reduce barriers to knowledge and technology transfer. This project will publish results in 2003 (Leal Filho 2002).

Canada, like Holland, has a strong student movement for sustainability in higher education. Funded by both public and private donations, the Canadian Sierra Youth Coalition (SYC) has been active since 1996 in raising environmental awareness and building skills for outreach, campaign building, and policy formation. SYC has focused for the past three years on a Sustainable Campuses Project (SCP), which calls for integrating sustainable practices at the core of higher education. Recent project areas have included student-led campus audits on various campuses; the incorporation of universal bus pass systems on some campuses (in which a bus pass for every student is included in tuition); the establishment of environmental management systems; sustainable transportation initiatives; energy- and water-efficiency practices on campus; and environmental education. In addition, SCP has held four annual national conferences for students focused on interactive workshops and new campus initiative planning. Students from more than 40 campuses have participated in SCP activities since 1999. For more information on SYC's Sustainable Campuses Project, see www.sierrayouthcoalition.org/en_CA/SusCamp /Campus.htm.

The United Kingdom's Higher Education Partnership for Sustainability (HEPS), which began in 2001, is a three-year project coordinated by the nonprofit organization Forum for the Future (www.heps.org.uk/). The organization is a leading sustainable development charity in the United Kingdom. Its mission is to accelerate the building of a sustainable way of life by taking a positive solutions-oriented approach, and it prioritizes partnership work with decision makers in business, government, higher education, and professional bodies.

The mission of HEPS is to transform participating institutions, inspire others in the sector, and generate programs and tools to guide in the transition to greater sustainability. Currently, there are 18 participating colleges and universities in the United Kingdom. HEPS does not dictate a model of sustainable behavior; rather, it takes the position that each institution must develop its own definition that fits with the needs and culture of the school. The partnership is supported by the governmental Funding Councils of England, Northern Ireland, Scotland, and Wales, which have agreed to give £750,000 over three years. In addition, participating institutions have each committed to

contribute £10,000 each year toward the initiative (which includes staff time and the use of facilities for meetings and events).

HEPS uses two strategies for effecting lasting change in partner institutions. First, HEPS encourages change from within the university. The program for each partner institution begins with a one-day opening sustainability review attended by student, faculty, operations, and senior management representatives. The review is designed to help generate a common understanding of sustainability, assess expectations, and build a work program that fits with the institution's existing strategic objectives. Under this strategy, HEPS engages in three ongoing activities: (1) it acts as facilitator for the individual work programs; (2) it promotes partnership-wide initiatives based on key themes that emerge from work with all institutions; and (3) it develops a framework and process for sustainability reporting. HEPS undertook research and held seminars in 2002 to develop a Web-based system for tracking and communicating institutional progress toward sustainability by the end of 2003.

Second, HEPS is committed to working with key external stakeholders (i.e., funding councils, other arms of government, professional associations, trade unions, research councils, auditors, assessors) to establish important contacts, involve them in sustainability-related activities, and influence policy making. Notably, HEPS has been invited to help set the agenda for a new sustainable development strategy group, which the Professional Associations for Higher Education has agreed to establish.

The Dutch, German, Canadian, and United Kingdom examples indicate the extent to which policy makers in these countries believe sustainable development to be a major concern: the initiatives derive most of their funding from governments and involve various sectors of society. They tend to be oriented toward curricular reform, though in the case of the United Kingdom and Canada, environmental impact at the operations level is also a major focus. The emphasis on national and international partnerships is also strong in these examples. Holland and Canada are especially notable for their student activism in HESD. This is striking next to the relative disinterest of U.S. students in this area.[14] Holland and Germany, in particular, are engaged in North-South partnerships, which address the social and economic aspects of sustainability. HEPS is particularly focused on ensuring the institutionalization of their reforms, which might help to inform future efforts to bring about lasting change in the education sector.

Southern Examples: Costa Rica, the Philippines, and Tanzania. Having made a strong historical commitment to peace, Costa Rica has more recently embraced sustainable development and environmental protection. As early as 1987, the Ministry of Natural Resources, Energy and Mines created a national strategy on sustainable development. In 1993, the University of Costa Rica, one of Costa Rica's most prominent institutions, endorsed a set of general policies on environmental conservation (Políticas generales sobre la conservación del medio ambiente).

These policies include the following:

1. The collective human right to live in a healthy environment is recognized, and the University is assigned the task of guaranteeing this right for the present and future generations.

2. With the emphasis on the need to form human beings with a different vision regarding the environment comes the realization that Nature possesses an intrinsic value that makes societies modify their lifestyles.

3. It is determined that the future of Costa Rica depends on the ability of human beings to live in peace among themselves and in harmony with nature.

4. The framework for institutional action, as well as the academic project of the University, must be committed to environmental education and to the preservation of a healthy environment.

5. The rational use of natural resources by the institution and by the country should be supported by raising a critical awareness among the students and by encouraging the teaching, investigation and extension within this field.

6. It is the University's duty to support the creation of projects whose purpose is to diagnose situations and provide education about the conservation of the environment.

7. Academic, administrative and student initiatives will be supported, as well as the signing of agreements that will promote the conservation of the environment. (Segreda 2002, p. 172)

These policies deeply embody the aspirations of sustainable development by stating our collective right to a healthy and peaceful environment (which could be broadly defined) for present and future generations, and the intrinsic value of nature, including ourselves. Furthermore, it is the duty of the university to guarantee that right and to perform research and educate accordingly.

To promote collaboration among scholars working independently on environmental and sustainability-related issues and to bridge the gap between research and action, the university initiated the Institutional Program of Sustainability and Peace (PRINSOPAZ) in 1995 for which sustainability and peace became the guiding principles. The purpose of PRINSOPAZ was to promote environmental education, the rehabilitation of wilderness areas, and the reduction of air and water pollution on campus, in surrounding communities, and throughout the country. In the area of environmental education, PRINSOPAZ has supported multidisciplinary faculty groups and projects. In 1997, PRINSOPAZ broadened its mission and joined with the Earth Council, an international organization in Costa Rica, to promote the Earth Charter.

Generally, the University of Costa Rica's contributions to HESD have been in the areas of research and formal and nonformal education. Many university faculty members have worked on external state-sponsored initiatives related to sustainability. These contributions are consistent with the University of Costa Rica's identity as an institution that offers (1) a long-term vision for sustainable development and (2) an ongoing evaluation of Costa Rica's social and environmental conditions and their impact on the national community (Segreda 2002, p.175).

Higher education in the Philippines is also committed to strengthening sustainable development. Even before the Rio Earth Summit, the government adopted the Philippine Strategy for Sustainable Development (PSSD) in 1989. One of PSSD's priorities was the promotion of environmental education (which, in this case, is equivalent to sustainability education). In 1995, the Philippine Association of Tertiary Level Educational Institutions in Environmental Protection and Management (PATLEPAM) was formed. PATLEPAM is a government-supported network of 380 colleges and universities, which brings environmental education, training, and research for sustainable development to local communities through educators' training workshops on environmental impact assessment, regional and local seminars, and community projects. It also promotes the incorporation of sustainable development in university curricula as well as in administrative and institutional cultures.

Among leading Philippine institutions, Miriam College is deeply committed to HESD. Miriam supports a strong curriculum in sustainable development, offering master's degrees in environmental planning and management, and, since 1999, Ph.D.s in environmental studies and environmental education.[15] Since 1996, an outreach program called Public Education and Awareness Campaign for the Environment (PEACE) has worked in the community to promote the concepts and solutions that the institution espouses in the classroom. Volunteers from the faculty, staff, and student body, as well as local representatives, work on local issues and projects to support environmental awareness and action. PEACE's most recent significant accomplishment is Miriam's Environmental Studies Institute, which houses and coordinates most of the school's teaching, research, and outreach programs in environmental education and sustainability.

Nevertheless, according to supporters of HESD at Miriam, serious challenges continue to thwart progress in education for sustainability in the Philippines. Mainstream society is still primarily concerned with short-term growth at the expense of natural capital. Higher education's primary mandate is still teaching and research with too little extension. Without widespread community training and consciousness-raising for sustainable development, proponents believe that the conventional path will prevail. Higher education, for this reason, must continue to adopt more participatory and adult-learning approaches and minimize content-driven, didactic classroom formats. More partnerships between higher education institutions and civil society groups and businesses will be critical to localizing sustainable development. Despite these criticisms, it is in the area of university outreach for sustainability that the Philippines appears relatively strong compared with other countries (Segovia and Galang 2002).

In Tanzania, there traditionally has been limited access to higher education,[16] with only three major public universities and two public university colleges in 1996 (plus 16 nonuniversity institutions and 41 teacher training colleges). Between 1996 and 2000, however, since the government started allowing the private sector to invest in education, seven private universities have been established. Many universities have started to identify sustainable development as a major concern in their strategic plans. Sokoine University of Agriculture (SUA), a public university founded in 1984, has made considerable

progress. First-year admissions, for example, increased 300 percent at SUA between 1992 and 2000. In curriculum development, SUA now offers an undergraduate program in wildlife management and environmental sciences, and postgraduate training courses in management of natural resources and sustainable agriculture and rural development. The university's research motto is "management of natural resources for sustainable development and poverty alleviation" (Kinabo 2001, p.3). Currently, the university supports more than 100 research projects on sustainable development issues.

Community outreach from the university sector in Tanzania is impressive, preparing students to work with workers and peasants in Tanzania's agricultural, wildlife, and livestock sectors and to deal with economic and social problems in rural areas through adult and continuing education and the dissemination of applied sciences and technologies. Another strong aspect of university outreach for sustainability involves the empowerment of women. In accordance with the Agenda 21 recommendation to increase female participation in environmental management and development, many Tanzanian universities are encouraging this transition. Given limited opportunity for females to pursue education in Tanzania (about 26 percent of students in secondary education are women and fewer are in higher education), SUA, among other universities, has started giving priority to female applicants. Conversely, in the area of campus operations, public universities in Tanzania recently have had to abandon the goal of sustainability. Low budget allocations have forced them to downsize their workforces and privatize some operations services (Kinabo 2001).

Unique to these three Southern examples is a strong commitment to community outreach for sustainable development. In Costa Rica, the Philippines, and Tanzania, the university is less an ivory tower than an integral member and supporter of community and national life. Although clear exceptions to this rule exist, in each of these countries the demand for engagement in public life seems equal to or stronger than the demand for scholarship in isolation.

Conclusion

Most governments—the United States in particular—have not embraced sustainable development as a major organizing principle for economic development or education. It makes good business sense for college and university planners

almost everywhere to pursue eco-efficiency in energy, waste management, building design, and purchasing. Even in these areas, planners will encounter the perverse subsidies and hidden costs that make sustainability hard to achieve. But colleges and universities have a deeper mission than being efficient. These institutions are vested by society with the task of discerning truth, imparting values, and preparing students to contribute to social progress and the advancement of knowledge. They have a profound responsibility to impart the moral vision and technical knowledge needed to ensure a high quality of life for future generations. Sustainable development is the current context in which higher education must begin to focus its mission.

Many international higher education institutions have responded to this major challenge of our time by making sustainability central to the critical dimensions of university life: curriculum; research and scholarship; operations; community outreach, partnerships, and service; student opportunities; and institutional mission and structure. Both the Northern and Southern examples cited here are consistent with the recommendations of Agenda 21 and the CSD as well as the various HESD declarations that have emerged over the last 10 years. Many of these initiatives are striving for greater interdisciplinary learning and for information sharing and networking between institutions on both national and global levels.

In Holland, perhaps the strongest example of HESD embodied in any country, the movement is well on its way: there is a framework for putting HESD in place as well as significant public support to go forward. In Tanzania, higher education is still establishing itself in terms of meeting basic needs. At the same time, there are major social, economic, and environmental challenges to confront, and these young or emerging universities are deeply engaged in finding solutions. HESD in action is still the exception to the rule in the Philippines, as representatives there point out.

However, the movement within higher education to grapple with the challenge of sustainable development is growing rather than diminishing. International developments and models, such as those described here, are encouraging. University leaders must increasingly support such critical initiatives as climate change commitments (which numerous U.S. colleges and state consortia are doing), triple-bottom-line approaches to curriculum reform and campus environmental management, and sustainability assessment and reporting. It is the fundamental task of education to raise public awareness and help mobilize the political will

to make the transition to a sustainable future. The United Nations decade of education for sustainable development presents a special opportunity for greater involvement from higher education leaders and an added impetus to accelerate that transition. ▥

Notes

1. The following two subsections ("Agenda 21 and subsequent international conferences" and "International HESD declarations") are taken largely from Calder and Clugston 2002.

2. Tbilisi was then capital of the Georgian U.S.S.R.

3. Sponsored by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the United Nations Environment Programme (UNEP), this conference marked the beginning of environmental education initiatives on an international governmental level.

4. The CSD was created in December 1992 to ensure effective follow-up of the United Nations Conference on Environment and Development and to monitor and report on implementation of the Rio Earth Summit agreements at the local, national, regional, and international levels.

5. Among international nongovernmental organizations (NGOs), the World Conservation Union (IUCN) has contributed significantly to advancing ESD. Its Commission on Education and Communication has a topical committee on ESD. IUCN is a partnership of 980 state governments, government agencies, and NGOs in 140 countries. See www.iucn.org/cec/.

6. The conference was organized by Tufts University and hosted at the Tufts European Center.

7. Type 2 outcomes from the WSSD are partnerships involving governments, NGOs, and businesses for the purpose of carrying out Agenda 21 and the *Plan of Implementation*. Type 1 outcomes are the *Political Declaration* and the *Plan of Implementation*.

8. This program is available in two multimedia formats: a CD-ROM and an Internet program (United Nations Educational, Scientific and Cultural Organization 2002b).

9. The Ubuntu Declaration is named for an area designated "Ubuntu Village" at the WSSD. "Ubuntu" derives from *ubu*, which means creation, and *ntu*, which means creator. Ubuntu has seven key principles: *umoja* (unity), *kujichagulia* (self-determination), *ujima* (collective work and responsibility), *ujamu* (corporate economics), *nia* (purpose), *kuumba* (creative), and *imani* (faith).

10. Also of note are the Ball State University "Greening of the Campus" conferences, which have been held in 1996, 1997, 1999, and 2001. These gatherings of more than 200

participants have become the premier U.S. campus greening events but consistently involve international participants. They include paper presentations and workshops, and Ball State publishes all papers in a *Conference Proceedings* volume (Koester 2001), now part of the literature of the field.

11. The authors have selected examples in this section to illustrate a variety of responses to the HESD challenge. We did not mention Australia, for example, which has a growing network of very committed universities. Many have recently signed the Talloires Declaration, and various leaders in education are working to create a national strategy.

12. If you compare this with the United States, which has a population about 17 times that of Holland, this is equivalent to $7 million per year.

13. Participating institutions include the Royal Institute of Technology (Sweden), the University Autonoma de Mexico (Mexico), the University of Cuyo (Argentina), the University of Girona (Spain), and the University of Sao Carlos (Brazil). The project is funded through June 2003, when outcomes will be published and promoted.

14. Recent activism among American students against globalization, the World Trade Organization, the World Bank, and the International Monetary Fund appears more anti-authoritarian than pro-sustainable development. This suggests primarily feelings of alienation and powerlessness on the part of U.S. students today.

15. Environmental education, in this and many cases, is nearly equivalent to sustainability education, because the former has evolved since the 1960s to include concepts of sustainability and development.

16. University enrollment figures in Tanzania (less than 25,000) are significantly lower than neighboring countries (Kenya, more than 50,000; Uganda, more than 40,000).

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Noteworthy Quotes

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