EDUCATION AND SUSTAINABILITY

Dr. Vatika Sibal   **Department of Sociology**

Assistant Professor   St. Andrew's College

B-601 Jerome Apartments   [Affiliated to University of Mumbai]

Sunder Nagar, Kalina   Bandra (West), Mumbai-98.

Santacruz (E)

Mumbai 400 098

ABSTRACT

The Indian Nation has more than 1.25 billion people which is more than a sixth of the world's population. We are projected to be the world's most populous country by 2025, surpassing China. With a population growth rate at about 1.5% where more than 50% population is below the age of 25 and more than 65% below the age of 35 we are poised to be the youngest Nation on Globe. The progress of society heavily depends on Education-specially for a country like ours. An egalitarian society where the focus is on social reform, economic upliftment of the downtrodden and the protection of cultural diversity of the natives in India is expected to benefit all. This is truly possible only when every child in this country is educated and eventually finds a meaningful job.

Academic institutions as community members, creators of knowledge, and educators of current and future citizens and practitioners have the potential to play a significant role in establishing sustainable environments. This paper examines the role of community as the learning context for colleges and universities and as co-creators for complex change processes. Collaborative educational models are presented that link environmental sustainability to community engagement and the enhancement of social and economic justice. Through interdisciplinary, community-based education students gain an awareness of and learn to make an investment in sustainable communities. As teams of students work in the local community, they are

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meaningfully involved with the community, each other, and the environment. Examples of collaborations designed to engage in interactive learning and development are outlined. Research from the areas of social work, environmental science, social justice, and social entrepreneurship are used to support this curricular approach.

Keywords: Environmental Sustainability, interdisciplinary education

Introduction

In the quest for development, primary education, which forms the base, is absolutely essential however; higher education undoubtedly provides the cutting edge. Higher education has made a significant contribution to economic development, social progress and political democracy in independent India. It has and will always remain a source of dynamism for the economy. Economic and Social opportunities to people have been made available through this higher education. Above all this, the single most important contribution of Higher Education to a country like ours, is that, it has triggered the creation of a knowledge society. If India is to make this transition to a knowledge economy, it is important that the quality of higher education in India is dramatically improved.

The Indian Educational system needs a systematic overhaul; it needs to educate much larger numbers without diluting academic standards. This is imperative because the transformation of economy and society in the 21st century would depend in significant part, on the spread and the quality of education among our people particularly in the sphere of higher education.

Environmental sustainability has become a prominent global issue with many groups now working to develop plans about the use and preservation of natural resources (Scerri, 2009). As universities prepare students to address critical issues in a complex society, pedagogy and curriculum development have broadened to include thoughtful responses to environmental issues (Williams et al., 2008). Much of the study on the environment tends to be grounded in the physical and biological sciences and technology driven, but new approaches to sustainability also examine the role of human relationships as critical factors in reaching the goals for environmental sustainability (Stocker & Kennedy, 2009). Higher education in India suffers

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intensely in terms of Quality and the intelligent use of Information Technology could be a means to achieve an end. The influence of Information Technology will remain the most important dynamic in changing the terrain of Indian Education. Technology, if constructed coherently and meticulously would help the purpose of Quality in Higher Education. Implementing IT solutions in an Educational Institutions if, not executed as a standalone project or a scheme but undertaken as a long term commitment would serve the purpose of improving the quality of Higher Education in India.

This article emphasizes community dynamics as a mediator that can encourage or discourage responsible decision-making regarding the environment. Community is examined as the focal point for establishing a commitment to environmental sustainability; and therefore, community dynamics play a central role in decision-making. Based on the notion of community as core, a model of environmental sustainability education, which reflects both an interdisciplinary orientation and experiential education, is introduced. Interdisciplinary models connecting the university to community and environmental sustainability are discussed where community is seen as central for environmental sustainability.

Environmental Sustainability

Environmental sustainability has become a nexus for many disciplines seeking to examine issues of resource allocation, poverty, social justice, and globalization. These issues are often entangled with concepts of human relationships and the development of societies that depend on the reasonable use of an environment designed to be shared by many. Sustainability is important in a global context when attempting to reconcile the process of consumption and production (Monaghan, 2009) between groups of people with competing and complex values. In fact "the concept of sustainability explores the relationship among economic development, environmental quality, and social equity" (Rogers, Jalal, & Boyd, 2008, p. 42). This combination presents the opportunity for many disciplines to develop groundbreaking theoretical frameworks for research and problem solving in communities. Particular works from the areas of social work activism, social justice, international business, social entrepreneurship, and the natural sciences have brought about insightful observations about the dynamics of environmental sustainability and its impact on individual decision-making, public policy formation, and economic development. New goals for environmental sustainability focus on creating alternative approaches to

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sustainability and seeing potential users of social innovations as a way to transform communities through environmental responsibility (Monaghan, 2009). Research on innovation and sustainability suggests that community dynamics are central to creating the transformation needed to encourage personal responsibility for environmental issues (Stocker & Kennedy, 2009).

Critical for those who examine environmental sustainability is the just and reasonable allocation of our natural resources (Hoff & Polack, 1993). As many cultures currently share large community spaces, relationships within those communities impact the ways in which natural resources are used and preserved. Those with more capital (social, cultural, and economic) have the greatest ability to make formal decisions about the environment (see Coates, 2003 for related discussion). All inhabitants, however, affect the environment, and indeed, under-represented groups in every community have a significant impact on the actual use of resources. Regardless of their impact on issues of the environment, individuals in poor rural or urban communities often experience challenging living conditions beyond their control that can be exacerbated by toxic environments detrimental to current and future health (Rogge & Darkwe, 1996).

The disempowerment of impoverished communities leaves the poor environmentally and socially vulnerable (Rogge & Darkwe, 1996). Examples of this disempowerment include profit-maximizing behavior resulting in a search for "cheap" labor (both regionally and globally) and for facility locations where pollution regulations are relatively lax (Hoff & Polack, 1993). Harvesting of natural resources with little consideration for the long-term needs of local communities and future generations creates further disadvantages for the under-represented. Similarly, policies and tax laws, which create economic disincentives that, discourage environmentally sustaining actions by individuals and corporations, adds to the concerns for vulnerable populations (Hammond, DeCanio, Duxbury, Sanstad & Stinson, 1997; Stinson, 1994).

Competing Views in Sustainability Decision Making

Decisions about the environment must be made with consideration to the multiple and often conflicting ways that individuals use and conserve resources (Monaghan, 2009). For example,

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we might find that those in Aboriginal communities have a very different model for environmental uses than those from larger, over developed cultures (Hoff & Polack, 1993). Van Jones (2008) makes this distinction as he examines the differences in the way Native Americans see their responsibility to the environment as opposed to the dominant North American view of responsibility. Without essentializing this Native American view, Van Jones articulates their consideration for environmental decisions informed by the needs of the whole community and for the needs of generations to come. This perspective highlights the communal nature of environmental sustainability. Defining, celebrating, and respecting diverse community and cultural models as critical to sustainability is prominent in developing transitional approaches to sustainable development (Monaghan 2009; Stocker & Kennedy, 2009). Decisions about sustainability and the environment are too often made in a vacuum with dominant cultural models preventing decision-makers from seeing, respecting, and engaging different models for solutions. As a result, cultural conflict adds to the already complicated processes designed to equitably manage environmental resources (see Hoff & Polack, 1993 for related discussion).

Individual decisions to act in the environment are influenced by the surrounding community. Personal reasons for acting merge with the activities of others to produce a cultural or community response, dictating patterns of use and consumption. In the area of environmental responses, individuals are informed by cultural, social, political, and economic influences prominent in their community (Monaghan, 2009). The dual relationship between the individual and the community makes responses to environmental concerns complex and difficult to interpret because the individuals have to mediate between what is in their own best interest and what is right for the community (Johnson & Scicchitano, 2009). The theory of human agency helps explain the complex interchange between individual action, influence, and change and communities and environmental sustainability. The ability to act is influenced by the social nature and relationships of people (Brockmeier, 2009). Consequently, change is linked to the potential of individuals to look deeper than surface facts to the cultural, political, and social issues that affect the environment and mediate their capacity to use this information. Senge, Smith, Kruschwitz, Laur, & Schley (2008) expand on this analysis through their discussion of the animateur as a change agent whose "personal beliefs, assumptions, and experiences are central to their motivation to act" (p. 147-148). Therefore, an examination of environmental

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sustainability must include analysis of how individuals might act, how communities might respond, and the interchange between the two.

Solving critical environmental problems through the work of communities generates new kinds of knowledge and delivery systems through circular and intertwining processes. Success is dependent upon re-envisioning problems and possibilities, approaches to communications, use of technology, and the development of processes and systems that can facilitate positive outcomes. Innovation is critical for environmental sustainability. Process and product are both engaged. Innovation is not only a total investment in technology laden processes and creations, but also engages the use of innovative, grassroots processes that provide a connection with the social issues that have an impact on environmental activities (Monaghan, 2009). These innovations can include new ventures created by social entrepreneurs, collaborations between for-profit and nonprofit organizations, and unconventional process used by governmental agencies to solve problems related to environmental sustainability.

Innovation and Education in Sustainability Decision Making

New knowledge may be as simple as finding ways to equitably share the cost for emissions into the environment or to produce biofuels without adversely affecting the food supply. It may involve complex interactions such as the processes engaged when communities consider approaches like Smart Growth to address the impact of unchecked community development decisions (Hutch, 2007). Smart growth models focus on reducing urban sprawl and the decreased use of petro fuels. Culturally and economically diverse members of the community are forced to come together to support sustainable development across neighborhoods. Technology and community wisdom are respected and innovation is valued as communities move toward successful environmental sustainability.

Innovation and environmental sustainability, however, can be difficult to manage in current organizational and community structures. Fukasaku (2000) writes,

> *Because of the externalities involved in their development and diffusion, it is clear that environmental innovations suffer from market failure. Also, because of the complex nature*

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of environmental innovations that require a transdisciplinary and intersectoral approach, innovations for environmental sustainability suffer systemic failure (p. 17).

Uni-disciplinary education and knowledge building are inadequate for making the necessary connections. Resulting models lack the resources for understanding and addressing the complexity. The specialized disciplines create silos of learning in which there is "a tendency to know more and more about less and less" (Robinson, 2001, p. 170). Disciplinary "loyalty to the abstractions of a discipline", disrupts the ability to vision the larger issues and leads to "a paralysis of will and imagination" (Orr, 2004, p. 95).

The great ecological issues of our time have to do in one way or another with our failure to see things in their entirety. That failure occurs when minds are taught to think in boxes and not taught to transcend those boxes or to question overly much how they fit with other boxes (Orr, pp. 94-95).
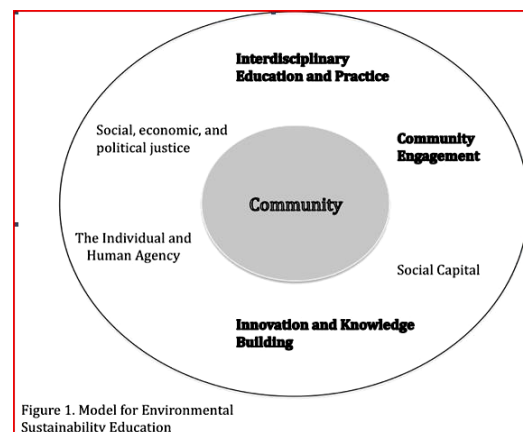
The problem may lie, at least in part, in a process that "emphasizes theories, not values; abstraction rather than consciousness; neat answers instead of questions; and technical efficiency over conscience" (Orr, p. 8) as we approach the world in which we live. A fundamental inability to join the intellectual and the affectional is created leaving us without a base for recognizing "our dependence on natural systems" (Orr, p. 95).

Change requires us to move beyond an inflexible education system to one where risk taking, experimentation, creativity, and critical judgment are valued and embraced (Robinson, 2001). This work weaves across the disciplines and can only occur in an environment of hope (see Turner, 2008). In the vein of Victor Frankl's tragic optimism, we have to move toward change in spite of the obstacles (Frankl, 1984). Decisions makers exposed to interdisciplinary approaches to problem solving have a broader range of resources for response. Organizations that are not equipped to deal with interdisciplinary ideas fail to provide the systems needed to move environmental innovations forward.

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The Importance of Collaborative Strategies

Academic institutions, as members of the community, are core to educating citizens, professionals, innovators, and solvers. They can also play a role in the co-creation of community change by contributing research, technical, and human resources along with emerging knowledge. Universities committed to community engagement establish reciprocal partnerships that improve the creativity and responsiveness of both (Boyer, 1996). Through collaborative interchange, the academy becomes "a more vigorous partner in the search for answers" (p. 13). The community provides a context for civic discourse and the reciprocal, interactional creation of knowledge. Community engaged education establishes the context for the exploration of pressing and complex problems, of which environmental sustainability is an example. Out of this reciprocal need comes the development of a model for interdisciplinary education that centers community as the context for learning. This model represents the theoretical and physical space where the university joins with others to address complex issues.

The *Model for Environmental Sustainability Education* is a systemic model integrating multiple dimensions deemed useful in the development of environmentally sustainable practice. The necessity for creating a model centered on community, interdisciplinary learning process, and the experiential learning process is reflected. Community building and community organizing processes are engaged to create change (Pyles, 2009).

Figure 1. Model for Environmental Sustainability Education

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Community is at the center of the learning environment. In some cases the model highlights methods of exploration (bolded in Figure1); in others it draws attention to theories, models, and relational factors. Through community engagement, interdisciplinary education, and theoretical and methodological knowledge development, the context is created for educating students as co-creators of change. Community building, social capital, and human agency models support the learning process. Understanding issues of social, economic, and political justice becomes core to supporting the change process. Learners in this environment are exposed to their personal notions of community, which assists them in evaluating multiple and competing concepts of community. This process helps in bridging the gap between opposing community participants. Diverse stakeholders are exposed to models of change that support the construction of environmental decisions that are in the best interest of everyone in the community (see Hoff & Polack, 1993 for related discussion).

Community engagement is one of the cornerstones of environmental sustainability education. It is through community engagement that students learn to appreciate the experiences that impact not only the environment, but also the individuals and communities as they interact with the environment. Rather than entering the community as experts, university participants need to enter as learners as well as educators in the spirit of sharing expertise. Effective ecological principles require the input of those who know the physical environment the best, and those who are most impacted by the decisions made about the community (Ling, Hanna, & Dale, 2009).

Interdisciplinary models of education lead to a rethinking of both the structure and process of education. Interdisciplinary analysis is critical in providing multiple lenses to critique, deconstruct, and develop approaches to environmental sustainability. While multiple academic disciplines provide components of the training ground for the development of knowledge, skills, and abilities useful in balancing consumption and conservation of our environmental resources, the lens of the discipline limits their analysis. Each discipline brings their knowledge, but once integrated with the framework of other disciplines, the potential for knowledge building and problem solving increases. Social workers bring a commitment to human rights and social justice, organizational and community change, community engagement, and an increasing interest in ecological issues and sustainability (Coates, 2003; Gilman, 1996; Marlow & Van Rooyen, 2001; Ungar, 2002; Waible, Mangan, & Stinson, 1996a, 1996b). Models of ecological

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social work are integral to the profession (Coates, 2003; Mary, 2008; Ungar, 2002) and green social work practice (Marlow & Van Rooyen, 2001) provides a context for cross-disciplinary exploration. In the field of social work, the change process, social and economic justice issues, policies and politics, and worldview are explored in relationship to ecology and the environment (Coates, 2003; Mary, 2008; Zapf, 2009).

The fields of business and economics engage critical issues of management, planning, organizing, promoting, and resource optimization. This is particularly true in the area of social entrepreneurship, where the focus is on adapting the efficiencies developed in business to advance solutions for social and environmental concerns (Bornstein, 2004; Elkington & Hartigan, 2008). In the area of social entrepreneurship, the researcher can explore the ways in which environmental sustainability is similar to entrepreneurship. For example, Clifford and Dixon (2006) introduce the term "Social Ecopreneur" as a way to capture the identities of individuals who are interested in social, environmental, and economic issues that impact communities.

In the physical and biological sciences, many researchers have expanded their work from a strictly analytical examination of climate change, species extinction, air and water pollution, energy use, and habitat loss to also include a more active involvement with local, national, and international policy development (Committee on, 1999; Koshel & McAllister, 2008; Uhlir, 2003; Wilson, 2006). A casual Internet search shows that interdisciplinary courses, institutional centers, and degree programs linking the natural sciences, public policy, and economics are increasingly common. These lead to research collaborations with far-reaching implications, e.g., Cooper, Beevers, and Oppenheimer's (2005) analysis of sea-level changes and recommendations for mitigation efforts.

Incorporating an interdisciplinary educational process better prepares practitioners in social work, economics & entrepreneurship, environmental sciences, and conflict studies to assess, engage, and remediate issues. A process of cross-disciplinary exploration and assessment provides the base for creative development of new models of change and practice that are remediating and sustaining. An ecosystems model provides students with knowledge for more effective practice in these complex environments (see Waltner-Toews, Kay, & Lister, 2008).

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Interdisciplinary education prepares practitioners for the use of multiple lenses to assess, engage, and remediate the issues they confront.

Diverse methods of experience can be used to reinforce learning about environmental issues and sustainable responses. Decisions made without consideration for how the actions might impact the community constrain the ability to envision the range of methods that might support community transition. Innovation and knowledge management provides the vehicle that actually moves the community ahead in addressing environmental concerns. In the case of the Model for Environmental Sustainability Education the focus is on redefining the traditional notions of innovation. Here modern technology is not always the central focus of innovation. Concepts like "grassroots innovation" are explored because it recognizes that social relationships can be organized in a way that better supports sustainability in the environment (Monaghan, 2009). Consideration of the barriers that separate individuals and communities from sustainable methods are critically important. When the correlation between sustainable practices and community goals are positive, sustainability is easy to accept and technical innovations are celebrated. But when sustainable practices do not match expected community norms, then processes that embrace both technical and social forms of knowledge and innovation must be engaged to address the social system that promote or hinder successful development of environmental sustainability practices (Boons & Wagner, 2009; Monaghan, 2009; Hoffman & Henn, 2008). Several theories/models are included representing issues that students are asked to explore as they become more sensitive to environmental sustainability.

This model respects the dynamics of community engagement by advocating participation in community based projects and service learning. Students are asked to identify notions of communities, shared resources, and the environment. Advocates guide students in the process of deconstructing these notions. As students offer knowledge gained from their past educational experience, it is meshed with concepts presented to them from unfamiliar and diverse disciplinary areas. The students are encouraged to integrate these frameworks creating new forms of analysis (Spelt, et al, 2009). They might be encouraged to work with a local entrepreneur to develop venture plans for a cooperative community store selling sustainable products. A project at this level would require the student to bring to the community partner knowledge in multiple arenas including environmental sustainability, business planning, and

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issues of justice. The community partner provides their expertise in understanding the community and how cooperatives perform for the community.

Constructs that help students better understand the decisions individuals make as they consider their actions in the environment are highlighted. These constructs include justice, capital, and human agency and are central to the literature on environmental sustainability. Students become familiar with appropriate literature and engage in academic activities that allow them to contemplate the significance of equality in dealing with the issues of sustainability. These constructs may be difficult for students to accept as they face preconceived notions of their own identity and the complexity of class issues (Cobb & Sennett, 1993).

Examples of Interdisciplinary Community-Based Sustainable Education

If universities, high schools, and trade schools are going to produce graduates with the potential to make decisions about resource allocation in communities, it is important that students are engaged in community based interdisciplinary education. This would include the knowledge and skills necessary for making decisions that fairly consider the whole community. Participation in decisions regarding our natural resources requires opportunity and education as an important ingredient in the development of strategic plans for environmental sustainability. Such approaches to decision-making incorporate careful consideration of the environment. This would involve attempts to minimize the impact that current decisions have on future generations (Page, 2006). This concern for future generations is in fact the central theme of the sustainability movement as coined in the Brundtland Commission Report (World Commission, 1987). This United Nations report was the first to highlight initiatives to reduce the impact of today's consumption on future generations (Rogers et al., 2008).

University/community collaborations create mutually enriching processes as faculty and students become change agents, educators, and collaborators. Representatives of local communities bring a sincere, vested interest in local outcomes. Community sites, when well chosen, provide meaningful learning environments. Overlapping interdisciplinary education within the community generates creative learning sites in which students confront complex issues. They engage in models of learning that require them to acquire the knowledge and skills for

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addressing the link between poverty, social justice, and environmental degradation (Coates, 2003; Hoff & Polack, 1993; Rogge & Darkwe, 1996).

The faculty, student, and institutional resources of the university provide support for community development. The faculty provides theoretical, research, and technical knowledge that can support community members in designing and implementing projects. Students are a resource in both the evaluation and implementation stages. Likewise, the chance to be involved with community projects creates learning opportunities for university constituents. Community sites provide the location for class projects, applied and service learning, and internships.

There are multiple methods for crossing, enriching, and integrating disciplinary knowledge. Interdisciplinary teaching in learning communities produces cross-disciplinary connections (Anonymous, 2008). Education for the future involves an examination of history, an exploration of current knowledge, and an evaluation of theory as a starting point for creativity. Learning is maximized through the use of interdisciplinary teams to explore, analyze, and create.

Student learning moves across the local to the global and becomes multi-dimensional as they explore neighborhood as well as Internet and multimedia resources. Teams engage in projects exploring the possibilities for changes that link the environment with justice and models of hope. Below are two models. The first exemplifies the use a curriculum development opportunity to create an interdisciplinary course on sustainability. The second reflects an interdisciplinary, university/community collaboration that is building community, educating students, and engaging process that supports sustainable development.

Opportunities for Collaboration. An interdisciplinary team at a mid-sized public university in the United States used an opportunity provided by a call for the development of a course on social entrepreneurship as an opportunity to create an interdisciplinary course on creating a sustainable environment. The development team came from the following disciplines: business/social entrepreneurship, communication studies, social work, and women and gender studies. Faculty from anthropology, environmental sciences, and conflict studies also consulted in the development of the course. Below is the course description:

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This is an interdisciplinary course designed to expose upper class undergraduate and graduate students to social entrepreneurship and multiple models for designing and implementing community-based projects that respond to social and economic issues. As social entrepreneurs, teams of students investigate environmental concerns, identify related issues of justice, create and inspire a model for direct action, and assess the potential impact of this action in the community and society at large. Students are expected to assess diversity, oppression, and justice issues in the target area, drawing relationships locally, regionally, nationally, and internationally.

The course is team taught with faculty from social work, social entrepreneurship, and communication studies. Faculty from conflict studies, women and gender studies, anthropology, and environmental sciences also contribute.

This interdisciplinary course reflects the growing understanding that today's social issues are best addressed through the collaborative thinking and action of people with varied interests, experiences, and knowledge bases. Students are exposed to peers from other academic disciplines as they engage in research, proposal writing, and community action focused on making a positive impact in the community. Students are expected to be able to critically examine social, economic, and political systems; reflect on their community engagement and development; evaluate the issues of diversity and justice; and generate collaborative models for application.

The focus moves from the global to the local with active engagement in the community. Students work in interdisciplinary teams. These teams are engaged with a community organization or neighborhood as the site for their learning. The teams take the knowledge and experiences gained in the community and integrate that with what they learn from course instruction and readings to create a final project employing alternative models for presentation. Their presentations involve the use of visual (photos and words) and auditory tools. Web based instructional technology is used to engage the students in group discussions and reading reflections on a regular and ongoing process.

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Learners explore how the environment influences the community, and how the community responds. Students are introduced to methodologies that encourage their respect for the wisdom of community members and are encouraged to work with community partners on critical problems. The transfer of knowledge between the community and the student (as representative of the university) make research more socially relevant and useable in society (Williams, et al, 2008).

- The process has shifted the vision of the teaching faculty not only beyond our disciplines, but also beyond the concept of teaching within discipline to one that engages learning from a global perspective and pulls from the knowledge base of multiple disciplines. The faculty expanded their lenses through the process of teaching the course, realizing more profoundly that the same language and worldview are not always shared. As a result, the interdisciplinary focus has become more integrated. The process ultimately brought the faculty back to shared goals and values as a bridge across language and disciplinary boundaries.

- The biggest barrier has been university boundaries and regulations. Although team-taught and listed across several disciplines, only one faculty member had the course counted in their work load assignment. Faculty instructors were faced with abandoning the investment in the course when the university did not commit to fund teaching faculty from multiple disciplines. As any community organizer knows, sometimes the change starts from the "street" level. The faculty, therefore, decided that teaching the course without that support would be a step in the process of change. This decision reflects a personal valuing of and commitment to the change process.

University/Community Commitment. A Community Development Alliance composed of leaders from county non-profit organizations, county government, and the college collaboratively identified several priorities that would facilitate sustainable development of the county.

Conclusion

Issues of environmental sustainability are too complex to be addressed by one academic discipline (Ling et al, 2009). As a result, in a time of great concern for a healthy environment, dialogue on sustainability, climate change, and endangered species and habitats have an

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increasing urgency (Coates, 2003; Friedman, 2008; Hoff & Polack, 1993). Individuals and communities are affected by overlapping social, economic, political, and environmental pressures and therefore struggle to find solutions based on diverse cultural and social perspectives.

Academic institutions work to produce research and practices that result in knowledge that is usable for the larger community, but are restricted by a culture of academic professionalism that has developed and now works to maintain the status quo (Orr, 2004). It is important that universities attempt to transform their role and join communities of change in order to produce quality graduates with the ability to make decisions focused on sustaining the environment.

In this paper we suggest that community engaged interdisciplinary, integrated approaches, bringing together the social with technological and scientific fields of practice, provide a setting for creative investigation and response. In working across disciplines, multiple lenses are focused on the complexity of environmental issues, providing learners access to diverse methodologies for assessing environmental decisions. Interdisciplinary approaches focus on the development of boundary-crossing skills and integrated knowledge building (Spelt, Biemans, Tobi, Luning, & Mulder, 2009) with the potential to transform community interaction with the environment. The potential exists to expand critical analysis and complex knowledge development as the lenses of multiple disciplines are brought to the process.

Interdisciplinary models such as the Model for Environmental Sustainability Education presented here bring the resources of the university to the community and invoke community as the focus for engaging teams of students in problem solving and creative development. These models require rethinking the structure of the curriculum and highlight the need to move beyond disciplines and university boundaries. Students learn as they move from personal examination to the exploration of local and global issues. University/community centers provide learning labs with the potential to prepare graduates to work holistically in approaching the complexity of the dilemmas they will be facing.

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