GLOBAL INSTITUTE of SUSTAINABILITY
ARIZONA STATE UNIVERSITY

SUSTAINABILITY CHANGES OUTLOOK FOR ENGINEER

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Jul. 11, 2008
Special for the *Republic*

This article is one in a series of articles contributed by Arizona State University's Global Institute of Sustainability. The Institute catalyzes and advances interdisciplinary research and education on environmental, economic and social sustainability

You could say that I'm an engineer by birth. I was literally raised to be an engineer so that I could help my dad automate our coffee plantation in India.

I studied instrumentation engineering in college and then got a master's degree in industrial engineering. My life revolved around quantifying human-made processes to improve efficiency through optimization and automation.

Speaking in a language of "numbers," I felt invincible because everything was open to beneficial manipulation - or so I thought. Then, I took a course in "sustainability" and was introduced to the unforeseen consequences of my chosen discipline. Insidiously, the big-picture consequences of engineering and technology began to trouble my thoughts.

I felt compelled to learn more about global consequences of trends in science and technology and so I applied to the brand-new School of Sustainability at Arizona State University to earn a doctorate in this pioneering field. The concept of sustainability was slowly gaining attention worldwide and in popular culture, distinguishing itself from the traditional environmentalism. The School of Sustainability was the only school in the nation that offered such an integrative program of study.

The school's approach is unorthodox, as the instructors encourage us to tackle problems with the perspective of many disciplines. My fellow students are unique because of their experiences and educational backgrounds and are astoundingly brilliant. They are steeped in a wealth of disciplines, including engineering, accountancy, environment, law, sociology, ecology and business. The class atmosphere has stimulated us to learn from each other's experiences and thought processes to identify pathways for a sustainable future.

The first time I heard a social scientist in class speak about human needs and concerns, I was profoundly confused. As an engineer, we rarely considered "people" in our equations, except for labor, of course! I came to realize that ours was a collaborative environment where students, faculty, and staff worked together to understand problems related to environmental, economic and social sustainability.

In concrete terms, transdisciplinary education at SOS means that a group of four faculty members (perhaps an economist, an urban planner, an ecologist, and an engineer) will lead us to explore a topic like renewable energy or water scarcity in a holistic way.

A flurry of world experts in sustainability visited SOS this year, sometimes several a week, to describe their work and how we – as researchers, students, or citizens – could help make a difference. I was amused that these individuals, all giants in their field, seemed to be childishly excited about SOS and our diverse group of students.

These talks expanded my systems-thinking perspective and sparked my awareness about a wide variety of global issues. And the collaboration with industry that the school attracts gives me an opportunity, not often afforded to students, to work with multi-

national corporations who are genuinely interested in sustainability.

I have achieved more in the past year than in my entire life. I am a co-student representative for SOS, CEO of Eco Imitation Products, organizer for Green Drinks Tempe, research assistant at the Global Institute of Sustainability's National Center of Excellence, and president of ASU's Transhumanism Club.

Now to find a way to sustain my energy and complete my Ph.D.

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