

UNITED STATES MILITARY ACADEMY

THE AMERICAN DREAM: REVISED

What the United States Needs to do to Shape a More Sustainable, Ethical Lifestyle for the Future

CE400: CIVIL ENGINEERING PROFESSIONAL PRACTICE

SECTION E1

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WEST POINT, NEW YORK

12 FEB 2009

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The American Dream has always been 'more'. More, better, bigger, longer, flashier; all terms which describe the American lifestyle we want for our children and our children's children. However, in times like these, the American dream is not only barely attainable—it's completely unsustainable. There is an urgent need to fundamentally shift this culture of 'more' to a culture of 'better.' This radical change in thinking would be as William D. Ruckelshaus observed in 1989, "...comparable in scale to only two other changes: the agricultural revolution...and the Industrial Revolution" (Ruckelshaus 1989). He noted, however, "Those revolutions were gradual, spontaneous and largely unconscious. [Moving a nation towards sustainability] will have to be a fully conscious operation...If we actually do it, the undertaking will be absolutely unique in humanity's stay on the earth"

This undertaking will be no small task, which is why I think the Civil Engineering profession is not only best suited for the task given its thorough understanding of sustainable lifestyle practices, it is ethically obligated to facilitate this nationwide change. The American lifestyle could become more ethical and sustainable if we, the Civil Engineering profession, focus on grassroots education, accessibility of sustainability information, and active engineer involvement in the community.

A basic understanding of what a Civil engineer is and does is essential in jump starting the understanding of the importance of adopting sustainable lifestyles as a nation. The first step toward inducing this change is to modify the way we educate our children. To raise a sustainability and technologically literate society, it is essential that our children have exposure to engineering early, as the elementary years provide adequate opportunity for exploring math science and engineering technologies on a small scale (Cunningham et al. 2006). One study found that when asked to draw what a child thinks an engineer at work is, the results yield images of tools, cars and computers as the top three drawing types produced, totaling almost 60% of the recorded subjects (Knight, Cunningham 2004). To redraw our profession in a child's eyes, simple implementation of K-5 engineering introductory programs, such as "Engineering is Elementary," nationwide will help to expose children to the possibilities of engineering and plant the seeds of how they can make small changes to live sustainably. Ultimately, much like the basic health and wellness education our children receive, introductory programs in engineering and

sustainability can give children a base understanding to refer to for the rest of their education and hopefully later on integrate into a 'better' ethical lifestyle.

However, the success of these programs depends on the education of the educators. Since all teachers of engineering cannot themselves be engineers, the engineering community should in the short term strive to ensure that K-12 educators at a minimum have a basic knowledge of Civil Engineering and sustainability principles in order to properly convey that information to students. In the future, understanding of sustainability principles and engineering should be a part of every traditionally defined "liberal" education. The schism between "liberal" and "math-science" based specialties in college needs to be bridged. In order for everyone to be functional members of society and make informed ethical decisions, it is important that each hold a base understanding of the other's discipline to better communicate and function as a team when solving societies problems. In the future, traditional engineering and liberal arts will blur—as both disciplines cannot survive without the other—and engineering courses will focus on basic theoretical understanding as well as how to problem solve. "An education ... cannot afford to leave students unable to grapple with the [engineering and sustainability] component of [contemporary] issues" (Peters, 2008). She goes on to say that as a profession and as a nation, "We owe it to [non engineers] to provide them with an [engineering] component to their liberal arts education".

Teaching the principles of sustainability to teachers and children will act to encourage more thoughtful lifestyle choices and career decisions by those on the receiving end. Grassroots education will work to embed the values of better living early, thus helping to stop unsustainable, unethical practices before they begin in a new generation.

While the Civil Engineering community may have a captive audience with children and teachers in school, the challenge of getting the word out about sustainable practices to the general public—who have long since traded in their school books—is a large but certainly not impossible one. As a profession it is our ethical duty to be at the forefront for producing and communicating easy to use interactive resources that explain the principles of sustainability to the average American. As stated in the Vision for

Civil Engineers in 2025, Civil Engineers are “entrusted by society to create a sustainable world...and serve competently, collaboratively as master innovators and integrators of ideas and technology across the public, private and academic sectors”(ASCE 2006). The information age makes both the communication plan and vision statement very attainable goals in that the access to information resources like the internet is very common. The theory behind this all “angles information strategy” is according to Mr. Rob Ross, a Civil Engineer and energy expert: “if educated, Americans will do the right thing” with regard to sustainable practices. It is our responsibility as professionals to take advantage of all of the resources available: web info video, press releases, ad campaigning and partnering with pre-existing organizations who support the “green” movement in order to get educate the public. The resources we provide need to be comprehensive; not only explaining the environmental and societal benefits of specific sustainable practices but also how much energy and more importantly how much money they will save in the process. This information should be easy to navigate, and give the user the feeling of being welcomed into our community. This information will give Americans the tools to change their lives and live better ethical and sustainable lives.

In addition to resources and information, the engineering community must strive to be present in the lives of those we serve and protect. It is important that we never forget that: “While images always maintain some connection to people, places, things, or events, their generative potential in a sense gives them a life of their own, so that we not only create images, but are also shaped by them” (Weber, Mitchell 1995). The civil engineering community needs to make its own image though a human presence, and community involvement, by taking control we can once and for all shake the “introverted nerd” stigma attached to members of our profession. Engineers are ethically obligated to be students of the profession and its practices in order to serve as resources for those who are not members of the profession. Therefore, to build on the concept of ethical and sustainable education of the average American, the profession should provide community contact with practicing engineers who are available to serve as

sources of info on sustainability or engineering. Community presence and availability are essential for engineers to break down society's perceived barriers and get involved with the community.

Engineers should also continue to be "leaders in discussions and decisions shaping public, environmental and infrastructure policies" (ASCE 2006). As a result of the work the profession has already done working with public policy makers as they "...now better understand the crucial link between [sustainable living] and quality of life, which has caused a major public policy shift" (ASCE 2006) This piques the general public's interest in what we do as professionals and brings credit upon our profession for stepping forward to take credit. The current ASCE president recognized this in his address at this year's national conference, "There's more at stake than just [our] pride, the public's lack of understanding about engineers' work also cuts into funding for projects" (Koltz 2008). Recent research supports the notion that, "Few [people] come in contact with working engineers, thus [their] ideas about engineering are formed from other sources, such as the media"(Knight, Cunningham 2004). As professionals, we need to ask: Do we really want main stream media forming the public's opinion of our profession? I believe the answer to this question is a resounding 'No.' Civil Engineers are ethically obligated to get involved with the community in order to alter current public perception. If all professional engineers serve the role of educator and community resource in the field of sustainability, the word of mouth praise and press will take care of itself. Once we put a face on engineering, and identify ourselves as sustainable practice experts, members of the community will be more likely to seek us out to live better.

Currently the American lifestyle is unethical and unsustainable; Left unchanged, the ramifications could be severe. A major shift in the way that Americans view what is an appropriate lifestyle needs to occur in order for our country to maintain its current standards of living. Civil engineers are ethically and professionally obligated to facilitate this change from a '*more society*' to a '*better society*.' Civil engineers are charged with building a better tomorrow today by taking a proactive approach with education of our children, communication with our citizens and stepping forward as professionals by

involving ourselves in the community. The result will yield a more sustainable societal standard which is lasting, high quality, clean and green. An investment in our society and its citizens' education now will allow us to pass the revised American Dream on, for generations to come.

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