

A Vision for Relevance

Question: Should Cooperative Extension galvanize and lead a public shift to sustainability in response to global warming & climate change?

Answer: The time is NOW for Extension to engage individuals & communities for environmental stewardship, through Sustainable Living Education.

Attaining a Sustainable Future for Communities and the Environment

Earth's capacity to sustain populations and communities of humans and other species is being altered by changes in global climate. The American Association for the Advancement of Science has issued this statement: *"The scientific evidence is clear: global climate change caused by human activities is occurring now, and is a growing threat to society...In addition to rapidly reducing greenhouse gas emissions, it is essential that we develop strategies to adapt to on-going changes and make communities more resilient to future changes...Delaying action to address climate change will increase the environmental and societal consequences as well as the costs...The time is now. We must rise to the challenge. We owe this to future generations."*

David F. Hales, President of the College of the Atlantic, has written, ***"If higher education is not relevant to solving the crisis of global warming, it is not relevant, period."*** (*A Call for Climate Leadership: Progress and Opportunities in Addressing the Defining Challenge of Our Times*, a publication of the American College & University Presidents' Climate Commitment)

An avalanche of scientific data, reports and media coverage is cascading from the 4th IPCC Report of February 2007 (Intergovernmental Panel on Climate Change). Individuals and communities are realizing that we cannot continue at our current pace of natural resource utilization. Scientists say the Earth's climatological clock gives us 10 years to stave off the most catastrophic long-term changes to Earth's climate. If we act quickly to reverse the upward trend of greenhouse gas emissions, it is still possible for human civilization to survive, with major adaptation to an altered global climate – albeit with much suffering by the world's poorest.

American citizens need to understand past, present and future changes in Earth's natural environment, in the context of economic development, equality and justice. Extension's publics need our help to understand how climate change threatens Earth's ability to continue providing ecosystem-based goods and services fundamental to human well-being. Our clientele need guidance to reduce their CO₂ footprint and prepare to make a living – and a life – in a world whose natural resources are being reallocated by Earth's changing climatic system. Measurable changes already are being tracked in species ranges, growing seasons, distribution of water and arable soils, evapo-transpiration rates, and life histories that have evolved to be synchronous (plants + pollinators, wildlife migrations + food availability). Recent updates to the USDA Plant Hardiness Zone Map illustrate some of these shifts in response to a changing climate.

George Elvin, Director of Green Technology Forum says, “The *Stern Review on the Economics of Climate Change*, released Oct. 30, 2006, warned that failing to act on global climate change could risk future economic damages equivalent to a reduction of up to 20% in global gross domestic product (GDP). To focus on the US economy, with a GDP of \$12.3 trillion/yr, climate change-induced loss could reach almost \$2.5 trillion/yr...If we were to accept the Stern Review’s recommendation and invest 1% of [our GDP] in solving our global climate change problems, we’d be spending \$24.6 billion/yr. That sounds like a huge investment, but if the report is right and failing to act could lead to losses of almost \$2.5 trillion/yr, it starts to look like a pretty wise one. When we add the environmental and human health benefits it looks even better.”

”Sustainable development” gained world-wide attention as a new buzz-word in 1987, when the United Nations World Commission on Environment & Development defined it as development “that meets the needs of the present without endangering the ability of future generations to meet their own needs.” In the 21 years since, world economic development has fueled purchasing power apace, “wants” have morphed into “needs” in the hearts and minds of an exponentially-growing human population, yet a sizeable number of people on the planet still suffer deprivation of the most basic needs (food, water, shelter, space). It is apparent that this definition must be re-framed by a realistic assessment of the natural resources and ecosystem services our global environment is capable of providing, and at what level of sustained demand.

Applying the term “sustainable” to a familiar context, sustainable agriculture refers to the ability of a farm to produce food and income indefinitely without irreversible damage to ecosystem health. The key components are bio-physical sustainability and socio-economic sustainability. The first refers to the long-term effects of various practices on environmental properties and processes essential for production. The latter refers to the long-term ability of producers to use technological resources to earn income. Sustainable agriculture integrates three main goals: environmental stewardship, farm profitability and prosperous farming communities. Given the finite supply of natural resources, inefficient agriculture eventually exhausts the available resources, or the ability to afford and/or acquire them. Inefficient agriculture also generates negative consequences, such as pollution, environmental degradation, and fewer livable wages.

In a more populated, urbanized, and highly interconnected world, adapting to change requires understanding the complex interactions between human societies, economic development, the ecosystems of working lands, and those of natural areas. We need a crash course in how to live in synch with Earth’s limits for humans. We need to focus on inter-generational transfer – just as we do with family resources. Living within those bounds is the real meaning of “sustainable.”

The National Network for Sustainable Living Education (NNSLE), an initiative of the Association of Natural Resource Extension Professionals (ANREP), has defined **economic** sustainability as maintaining or increasing our standard of living without decreasing that of others. **Social** sustainability implies equity and fairness in the creation of vibrant community life, both locally and globally. **Environmental** sustainability mandates conserving and managing our ecosystems for future generations. To understand the relationship between these three elements of sustainability, visualize a pair of overlapping circles representing social and economic sustainability, set within and constrained by an encompassing circle of environmental sustainability – without which the sustainability of the other two circles is not even a possibility.

In confronting the crisis of climate change, Sustainable Living Education cannot be value-neutral; it cannot be without goals for society to embrace, individual by individual. Humanity's future requires that it be ethics-based. And for it to succeed, sustainable living education must escape the gravitational pull of the old paradigm of personal economic self-interest being the most logical arbiter of ethically-acceptable behavior.

Impact-centered sustainable living education must increase public awareness and knowledge about environmental, economic and social issues. It must provide the critical thinking skills essential to making informed decisions and taking responsible actions. It needs to be tailored to individual change and individual choices about change. Above all, it must be based on objective and scientifically-sound information.

Sustainable living education should address sustainability at both the individual and community level, since a community is made up of individuals. It is easier for people to make changes to the aspects of living they personally control, and to see results there. Education about sustainability usually should begin with sustainable living at the personal level – and focus on consumption.

Our consumption patterns in the US are emulated across the globe. We have an obligation to become more resource efficient, beginning with individuals and families. Living in a sustainable manner is about consuming less and consuming differently. Issues as disparate as emotional stress, sedentary leisure, childhood obesity and its cascade of diseases, economic instability and dysfunctional families – all have their origin in our constant consumptive pursuit. Most people can't visualize changing the world, but combining errands to reduce fuel consumption, recycling, supporting local businesses, and eating organic or locally grown foods are do-able first steps.

Opportunity for the Cooperative Extension System to Champion Sustainable Living Education

The Cooperative Extension System is in a prime position to teach individuals and communities how to live and work sustainably. But only if Extension educators unite across the program areas of engineering, natural sciences and social sciences will we reach our impact potential.

To effectively address the need for Sustainable Living Education, Extension must immediately re-focus and re-tool. We need a state-by-state implementation of sustainable living programming to help clientele break from excessive consumption patterns held up as societal norms. We have the collective knowledge, experience and national presence to meet this educational challenge and provide ways for individuals and communities to mitigate the climate change it engenders. We have the confidence of our traditional audiences. But if Extension is not prepared to be a leader in providing education on this overriding challenge of our time, the public will go elsewhere for it – and indeed, the public is already doing so. The ways in which people obtain information have changed radically in the past 30 years, and Extension doesn't have an exclusive franchise on credible information to address practical issues, like we once may have had.

Over the past several decades, Extension has offered programs on environmental education, climate change, renewable energy and sustainability – all topics that fit under the broad heading of "Sustainable Living Education." Each received its day of attention from various sectors. But

these efforts have been scattered, and not connected to – or supported by – a national level programmatic identity, impetus or policy. In addition to state-by-state efforts, we need a concerted, organized, national approach to address and guide Extension programming on Sustainable Living.

Taking Inventory: Extension Actions for Engagement with Sustainable Living Education

Essential Step A: Educational programs on Sustainable Living must be multidisciplinary. As part of the national land grant system, Cooperative Extension has the breadth of expertise to teach the entire range of topics that are part of Sustainable Living. Individual patterns of consuming food, energy, housing, household goods, water, recreation resources and transportation have contributed to our current socially complex environmental problems. Individuals and communities want to learn the linkages between individual actions and environmental impact, and how behavioral changes can mitigate those impacts.

Essential Step B: Educational programs on Sustainable Living must holistically address the total energy, water and carbon footprint of the lifestyle choices of our stakeholders. One’s footprint includes: business, development and investment interests and decisions; farming, ranching and timbering interests and decisions; household goods and home-life practices; leisure “toys” and recreational practices. We have experience in all these arenas. And we now have the opportunity to merge our traditionally separate, single-discipline audiences into one – youth through adult.

Essential Step C: Educational programs on Sustainable Living must take place now – with in-service and other professional training for our existing workforce. We don’t have the luxury of waiting for multi-year planning processes, or for badly-needed specialized educators to come on-board. To start, Extension educators in partnership with advisory committees can form multi-county and multi-state teams focused on planning and delivering multi-disciplinary programs that reach into all subject and issue areas of Sustainable Living. The knowledge and credibility of all team members will be accelerated if their experience of dealing with the issues occurs at both a personal and a professional level.

Essential Step D: Educational programs on Sustainable Living must focus on how choices, decisions and behaviors affect natural resources, equity, and economic development at the local, regional, national and global scales. Our programs should identify vulnerabilities and options that enhance agricultural, forest, freshwater and marine sustainability. They must provide a basis for clientele to develop infrastructure to implement change in their economic sector. Extension has the capacity to develop expert decision-making software tools based on scientific data. With these tools, we can help the public evaluate how best to invest discretionary purchasing power to maximize targeted results – reduced carbon footprint, less waste, and lower energy requirements.

Essential Step E: Extension must be the model for others to emulate. We have to walk our talk. Extension staff members will “learn by doing” as we green our own lifestyles, offices, campuses and 4-H camps. As a result, we will radically shrink our ecological footprint and visually demonstrate the knowledge and practices we are teaching. The process will be a vehicle for personal re-direction and professional development, and a vehicle for teaching others – a “hands-

on” project for family members, volunteers, 4-H youth and adult clientele. Extension administrators must make green institutional investment a priority and provide the resources necessary to achieve it.

Essential Step F: With success at the personal and family level, and a constituency ready to effect community change, Extension can help communities rethink their municipal systems that constrain our options for living sustainably. Public transportation, conservation subdivisions, growth management, and revitalization of urban areas all support more sustainable lifestyles for people. We could help citizens and community leaders understand and evaluate their potential.

Re-discovering Our Land Grant Vision in the Challenge of Climate Change

How could Extension fit into a robust national strategy for adapting to climate change? We see an Extension role writ large in the United Nations General Assembly paper “**Climate Change as a Global Challenge,**” prepared as a backgrounder to thematic debate on 31 July-1 August 2007. It encourages countries to develop “effective national adaptation strategies which may include:

- ? measures to enhance the scientific basis for decision making;
- ? methods and tools for the assessment of adaptation;
- ? education, training and public awareness on adaptation, including for young people;
- ? promoting individual and institutional capacity-building;
- ? technology development and transfer;
- ? promotion of local coping strategies; and
- ? legislation and regulatory frameworks, which promote adaptive-friendly action.”

“We stand at a critical moment in Earth's history, a time when humanity must choose its future. As the world becomes increasingly interdependent and fragile, the future at once holds great peril and great promise. To move forward we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace. Towards this end, it is imperative that we, the peoples of Earth, declare our responsibility to one another, to the greater community of life, and to future generations.” – Preamble to the Earth Charter, June 2000

Authors & Editors

Greg Crosby, PhD, USDA-CSREES, Washington DC; Catherine Elliott, PhD, University of Maine Cooperative Extension, Orono ME; Leslie Hyde, MS, University of Maine Cooperative Extension, Lincolnville ME; Lauren McDonell, MS, University of Florida School of Forest Resources & Conservation, New Castle CO; Martha Monroe, PhD, University of Florida Extension, Gainesville FL; Diana Rashash, PhD, North Carolina State University Extension, Jacksonville NC; William Sheftall, MS, University of Florida Extension, Tallahassee FL; Viviane Simon-Brown, MS, Oregon State University Extension, Corvallis OR; Luis Tupas, PhD, USDA -CSREES, Washington DC; Thomas Worthley, MS, University of Connecticut Extension, Haddam CT

Members of the National Network for Sustainable Living Education (an initiative of the Association of Natural Resource Extension Professionals) – February 14, 2008