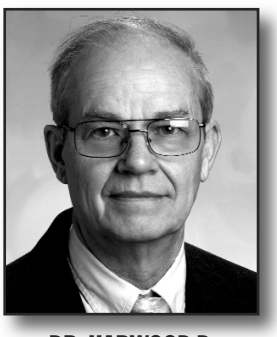
policy
pennings

Δ **Contact Dr. Daryll E. Ray or Dr. Harwood D. Schaffer** at the UT's Agricultural Policy Analysis Center by calling (865) 974-7407,faxing (865) 974-7298, or emailing dray@utk.edu or hdschaffer@utk.edu
For more info, visit: www.agpolicy.org

The Farm Bill And Environmental Sustainability

DR. DARYLL E. RAY
Agricultural Economist
University of Tennessee



DR. HARWOOD D. SCHAFFER
Research Assistant Professor at APAC, University of Tennessee

It appears to us that the farm bill is in some sort of limbo caught between a hastily constructed 12-month extension of some, but not all, of the elements the 2008 legislation and the need of Congress to address fiscal issues including the threat of sequestration if nothing is done. It is not even clear when the farm bill will be addressed or to what extent the process will be open to the public.

While farmers certainly will be able to use the crop insurance program for the 2013 crop year, we are unclear as to whether or not farmers will receive the direct payments included in the extension resolution or whether they will be negotiated away as a part of the budget debate.

In this climate of uncertainty, we want to take a step back and look at some major elements of a sensible agricultural policy. In our reflection, we have identified four major elements: environmental sustainability, human physical sustainability, economic sustainability, and political sustainability. Over this column and the next three, we will be examining these concepts, one at a time, recognizing that there is considerable interplay among the elements.

As we think about environmental sustainability, it seems to us that we need to start with the recognition the world has stood on its own. The environment regulated itself for billions of years before humans made their relatively recent appearance on the face of the earth and it undoubtedly would continue to do so if humans were no longer around.

The earth's environment is powered primarily by solar and geothermal systems. Occasionally, large meteors strike the earth causing widespread devastation. For reasons that earth scientists are trying to more fully tease out, the earth's environment is subject to wide natural swings with periods of ice ages as well as periods where the mean temperature was significantly higher than it is today.

At the same time it is undeniable that, as humans, we do have an impact on the environment. All one has to do is board an airplane and look out the window to see this. Major metropolises cover large areas of the country and smaller cities are scattered about connected by ribbons of highway.

Spread across the Great Plains are large agricultural areas with their straight lines and rectangular fields, some with inscribed circles. Flying over the mountain West we are struck when we see rugged mountains with their irregular shape one minute and agricultural valleys with their straight lines and circles the next.

As humans, we have engaged in the deliberate manipulation of the environment in order to produce the food needed to sustain a population that has grown to over 7 billion people. As a result human activity in general – and agriculture in particular – has a large and growing impact on the earth's environment. Human impact on the earth's environment can be seen in issues ranging from global warming to algae bloom in water bodies that receive the drainage from large agricultural areas.

In raising the issue of environmental sustainability, we are not arguing for the elimination of the human footprint on the land. Rather, we have some specific criteria in mind to guide the way we engage in agricultural production.

In producing food and fiber, we should not squander resources; we should not make a mess in our own nest; and we certainly don't want to do both at the same time. These are not three distinct concepts because when we squander resources, we often foul our own nest, doing both at the same time.

When the two of us were growing up, the environmental emphasis was on reducing the level of soil loss. University researchers and county extension personnel focused on the identification and adoption of practices like contour tillage and the use of cover crops. Activity in this area resulted from legislation adopted in 1935 that established the Soil Conservation Service, followed in 1937 by the formation of the first Soil and Water Conservation District in North Carolina in 1935.

In recent years, farmers have adopted a variety of conservation tillage practices that further reduced the loss of soil through wind and water erosion. In addition, we have seen the beginnings of precision agriculture, including the use of variable-rate application of fertilizer. Precision agriculture practices reduce the amount of inputs required to produce and harvest a crop. It is our expectation that over time more ways will be found to continue this reduction in the level of fuel, fertilizer, and farm chemicals we use each year.

As farmers consider what environmentally sustainability means to the way they farm, we would offer this question, "Can current practices continue without long-term negative consequences?" If the answer is no, then producers needs to accelerate changes in farming practices before changes are forced on them either by nature or by law. Clearly the preferable choice is for farmers to get out ahead of both.

And this is where the farm bill comes into play. In earlier generations, publicly-funded research by Land Grant Universities led to widespread adoption of practices that have significantly reduced the level of soil and water erosion in the US. Also, use of basic conservation practices have been an eligibility requirement for farm programs. If we are to continue improve our level of environmental sustainability, the federal government will need to invest in research to identify practices that will bring about a reduction in the levels of farm-applied nitrogen makes its way into coastal waters as well as reduce the amount of fossil fuel-derived carbon dioxide that is released into the air as a result of agricultural activities. And, even as farm programs change over time, conservation compliance needs to be retained. Δ

DR. DARYLL E. RAY: Blasingame Chair of Excellence in Agricultural Policy, Institute of Agriculture, University of Tennessee

DR. HARWOOD D. SCHAFFER: Research Assistant Professor at APAC, University of Tennessee