Journal of Agricultural and Applied Economics, 43,3(August 2011):277–280

"Defining" Our Future by "Defining" Ourselves

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> **Definition (n.) –** a statement expressing the essential meaning of something; a statement of the meaning of a word or word group or symbol (Merriam-Webster online dictionary)

It may seem odd, even comical, to begin a paper with the definition of a definition. But, definitions are the basic building blocks of science, even civil discourse, so definitions have a tremendous impact on our professional lives. Over the years, I have come to believe that our profession is increasingly rudderless and adrift. This should not be confused with incompetent and irrelevant. Rather, we belong to a discipline with a tremendous tool chest and much to say about the problems facing our society. However, we seem to squander opportunities to make lasting impacts because we lack a well-defined mission or objective.

One is tempted to make broad, sweeping statements that we have abandoned our philosophical principles or that pseudo-science has infiltrated our ranks, or that our constant prayers and lamentations to the math god have angered the economic god. And some of these philosophical arguments may have merit, but, I would contend that, at some level, our problem stems from something more basic: definitions. For whatever reason (and I will propose a few), we have ignored Thomas Dewey's old adage: "A problem well defined is a problem half solved."

Definitions are critical. At one level, we define who we are through our core principles and objectives. At another level, definitions form the basis from which we operationalize our core principles, identify measurement opportunities, and illuminate the broader impacts of our conclusions. Definitions provide guidance for clarity of thought. Sloppy definitions are, of course, a manifestation of sloppy thinking. But I believe we have increasingly lost the sense of who we are, and as such, have become less effective in providing meaningful knowledge to society.

Two Examples of Bad Definitions—and Their Root Causes

To illustrate, I will focus on two primary examples of definitional issues. Both examples are, at least at some level, about communication. The first is about communication with the public, whereas the second relates to communication within the scientific community.

Words have meaning. And, yes, sometimes we condense definitions in our writings in order to economize on space and verbiage. For us, these abbreviated versions serve the purpose of conveying the essentials (although I really question whether the abbreviated versions have wholesale replaced more formal definitions). But in an increasingly connected world, others are watching. And our lack of clarity is having an impact on the broader world and our credibility.

For example, in my home area, we live atop the Ogallala Aquifer. This aquifer, as far as geologists know, is essentially closed so that use out of the aquifer is a question of depletion. During the considerable research over the years, economists and others discussed the point at which it would no longer be economically feasible to pump water from the aquifer for irrigated agriculture. At that point, there will likely

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be sufficient water supplies for public consumption for many years, if not indefinitely. But those involved developed the short-hand "running out of water" phrase of that point. To be sure, that definition was for internal use, but was picked up by the news media, and has resulted in years of attempting to educate the public about the facts. There are, it would seem, opportunity costs in communication, too.

In this example, the error was not one of economic logic but of clarity of communication. In short, the use of an improper definition led to a major contribution to economic illiteracy—an already enormous problem. As much as we are loath to admit it, we become too insulated within our own ranks and forget that one of our long-standing missions is educating the broader public on economic issues. By focusing myopically on internal communications, we have lost sight of this external responsibility, and it has come at a cost. How are we to expect to garner public support for our research, education, and outreach programs if we show the public little value for their investment?

Perhaps an even more egregious example is the current word de jure, "sustainability." What does that term mean? According to the most widely cited definition developed by a 1987 United Nations conference, sustainability is defined as: "meeting present needs without compromising the ability of future generations meeting their needs."

This definition sounds completely plausible and reasonable. But, let's think about the implications of this definition for a moment. For this concept/definition of sustainability to be possible, the resource base used today must not be degraded and/or must be able to sustain an almost certainly larger population in the future. But the Second Law of Thermodynamics insures that closed systems are not capable of self-perpetuating. Therefore, some outside force (perhaps technology) must intervene.

Proponents of organic agriculture insist that it is "sustainable." But, even the most generous of projections shows organic agriculture incapable of meeting the nutritional needs of the current global population (much less a growing one). Thus, outside energy (e.g., petro- or chemical-based products) must be interjected into the system in addition to the sun's energy to meet current needs (the first part of the definition). Therefore, "sustainability" cannot be taken to mean a closed system that perpetuates itself indefinitely.

Why, then, have groups been able to successfully utilize that word to mean something that is clearly not (or not reasonably) possible? I contend that economists have not had a coherent, recognizable voice in the debate about sustainability. Why have we apparently abdicated our role of convincing the scientific community, and by extension, the public to come to grips with the fact that sustainability is fundamentally about tradeoffs?

Again, the example of the High Plains and water is instructive. Physical scientists tell us that eliminating irrigation in the region will make the Ogallala Aquifer "sustainable" (here, sustainable is taken to mean that draw down is less than or equal to recharge). From a physical standpoint, that may be true. But, what about people? Research shows that elimination of irrigation in the region would reduce overall economic activity in the region by roughly 30% to 40% (Guererro, Hudson, and Wright, 2009). Thus, for *per capita* income (standard of living) to remain unchanged, roughly one third of the regional population would have to leave. So "meeting current needs" appears to have a tradeoff with "without compromising the ability of future generations to meet their needs."

Leaving that definition unchallenged gives the public the perception that products that are ultimately called "sustainable" are something they are not. More generally, leaving definitions that do not adequately address potential tradeoffs and/or challenge opportunity costs only serves to exacerbate the already dismal level of economic literacy among both scientists and the general public. Again, why have we abdicated our responsibility for conveying the key lessons of economics?

An Example that Works

A recent paper by Lusk and Norwood (2011) provides a good example of where the economist is trying to have an impact on public discourse. Entitled "The Locavore's Dilemma,"

the paper outlines the key problems with the "locavore's" arguments that food should be produced locally. Using mainly a comparative advantage argument, the authors show that the thought of producing everything locally does not make economic sense. As the subtitle of the paper suggests, growing pineapples in North Dakota is probably not a wise decision.

The interesting element of this piece is that it simply applies a very core concept in economics to a contemporary problem to provide a clear, concise judgment on that topic. Notice I said "judgment." I know that the positive purists in our discipline shy away from those, but to ultimately be relevant, we must make, albeit conditioned and cautious, judgments.

Where Do We Go?

If I am correct in my assessment of our issues/problems regarding our core definitions to reflect our principles, the question is how do we remedy the situation? First, and foremost, we have to recognize who we have become versus who we were. James Houck in his presidential address to the American Agricultural Economics Association in 1992 provided an interesting definition of an agricultural economist:

In my view, agricultural economists are individuals who, if either constrained or forced to attend only one professional meeting per year, would attend the Agricultural and Applied Economics Association (AAEA) summer meetings as they are now constituted (or a non-U.S. equivalent) at least three years out of every five. (p. 1060).

This somewhat entertaining if not opaque definition is telling in the context of that time (1992). His emphasis here is on the self-selection of individuals who attend those meetings. Houck's point was that there was a cohesive element that brought people who focused on topics such as the environmental, marketing, agribusiness, and international trade, together each year: agriculture. The meeting was a focal point for specialists to gather and ruminate about the broader problems facing their common interest of farms and rural communities.

From a nostalgic perspective, that common thread is unfortunately slipping away. Perhaps the agricultural focus is still stronger within the Southern Agricultural Economics Association, but in a broad sense, we have lost that common theme. Budgetary and administrative pressures have forced us out of the traditional "agricultural" roles that have existed over the years. Our clientele base has been shrinking in number but growing in size, thus changing their demands on the research and outreach communities. And even from within, we have had constant pressure to more closely emulate traditional economics departments.

This "physics envy" has come at a cost. Increasingly, we hear questions from administrators about why they should support two economics departments on campus. After all, are you not just the same? If our profession is to survive into the future, we must come to grips with the fact that we have been painted, and painted ourselves, into a corner. Lack of effective communication with the broader public is a factor as is our loss of focus on a cohesive mission to hold our profession together.

So, how do we move forward? Core principles. For example, how does economics suggest optimizing revenue when faced with a diverse population. . .price discriminate by identifying different "markets". Here, I mean to suggest that there are different elasticities of demand for "theoretical" economics research and "applied" economics research. Agriculture (as broadly defined) remains a central cohesive force among us. But, perhaps a more accurate definition of our core principles (or, more precisely, our comparative advantage) is that we are applied problem solvers. And being a problem solver has value. But, as the famous University of Texas football coach Darrell Royal said, "You gotta dance with who brung you." If we forget where we came from, not only will we lose a key piece of our identity, but we will also lose key support from those that help keep us funded.

Houck pointed out that the future would place greater demands on our profession to demonstrate our worth through accountability because of scarce research dollars. He was right. And we have not heeded his warning. However, we can effectively exploit the underlying differences in demand for research if we can effectively articulate our impact on society. Certainly, our profession must take

a more active role in insuring that the economic/social tradeoffs that exist in the meaning of terms and concepts are properly illuminated. In addition, we must illustrate how those concepts can be applied to affect real decisions on complex problems. But how?

First, our profession must take a more active role in developing definitions in the first place. Too often, we remain aloof and refuse to work with (or do not force ourselves upon) our physical science colleagues as they are developing definitions for terms. By skipping these debates, we miss the opportunity to infuse the opportunity costs/tradeoffs into those definitions in the first place. And, even when we do become engaged, we do so from afar by having disciplinary arguments about definitions in our own journals that others outside our discipline do not read. Or, as is more often the case, we just create definitions that suit our needs for the moment to make our own research more tractable with little regard as to its relationship to the broader world. Enforcing more precise thinking in our own internal dialogue is a prerequisite for success.

Although quite bothersome to organize, "conventions" to develop definitions (not just paper sessions to present our research) could offer an opportunity for open and honest debate about the meaning and implications of definitions for words. I know this sounds old-fashioned, but think of the commercial implications of a word like "sustainability." Would a session or two at a professional meeting devoted to defining that term not have a huge impact?

Second, taxonomy isn't sexy, but we might want to give some editorial consideration to good articles that attempt to address definitions head-on rather than as an afterthought in an empirical research piece. If one peruses the Social Science Citation Index, one can easily find many highly-cited articles that are almost completely devoted to naming, defining, and describing concepts rather than empirical research. Unfortunately, very few of our pages in journals are devoted to such articles. There is a balance, of course. This is not a call for abandoning applied research. Rather, we should not avoid good definitional articles if they are submitted simply because we "do not typically publish" articles of that sort.

Conclusions

The landscape for our profession has changed and continues to change. The newest generation is less likely to associate itself with agriculture *per se*, but more inclined to view themselves within a much more confined specialty. Budgetary constraints and changes on the demands for our research and outreach have all led to an erosion of the cohesion that has held our profession together.

To move forward, we must walk a fine line between redefining ourselves as "applied problem solvers" to keep our differentiation with general economics and business departments and maintaining our primary identity as being related to and/or interested in agriculture. The balancing act is precarious and not always successful (see the dissolution of the agricultural economics department at Clemson University as an example). My fear, though, is that if we do not try, we will lose our identity in the morass of the general economics discipline and we will eventually be weeded out through promotion and tenure processes that have no appreciation for applied problem solving.

Ultimately, how we define ourselves through our core principles will affect how we define concepts for use by society. If we are truly to show our worth to society, we have to infuse ourselves in the process of defining the problems, concepts, and solutions by which society will operate. We cannot sit on the sidelines if we hope to survive.

References

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