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Bringing a systems approach to food systems

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Midcourse corrections?

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In the last chapter of her classic book, *Thinking in Systems* (2008), Donella Meadows laid out more than a dozen lessons and concepts that summarized what she had learned from her immersion in the systems world. In this column I want to focus on two of these systems lessons, and then describe findings from several recent publications in the sustainable food arena that illustrate why and how I think these lessons could be applied to much of what we are doing.

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The first advice Meadows offers is to "expose your mental models to the light of day." We understand how important it is to know what the assumptions are behind a theory or research project—whether we're looking at a scientific or political argument. But often people don't share their assumptions (and sometimes don't even conceptualize them), so neither they nor their audiences know the basis for claims and the clarity (or lack thereof) of thinking that went into an argument. To identify the crux of a problem and make good decisions, we have to state assumptions and ask for feedback. Just as we know the benefits of having many voices at the table on food issues, we want to examine multiple options and remove as many of our biases as we can in order to implement valid programs.

Meadows' second lesson is "honor, respect, and distribute information." Systems work much better with timely, accurate, and complete information, although this situation is unfortunately much more an ideal than the reality. Meadows also underscores the point that information is power. But as I described in an earlier column (Clancy,

2015), we often let our biases keep us from accepting new information.

The two articles that have caught my attention ask us to look at what we're doing (1) to increase the adoption of agroecological principles and practices, and (2) to reduce meat consumption. They implicitly urge us to rethink assumptions in these two areas, and to change or adopt new approaches that might be more successful in instituting change.

In their paper on creating a web of legitimacy for agroecology, de Wit and Iles (2016) argue that the legitimacy (accepting something as credible and authoritative and expressing it widely) accorded to industrial agriculture is still quite strong. They argue that industrial agriculture's legitimacy needs to be offset by developing agroecology's own thick legitimacy, where "thick" means that it arises from multiple threads in scientific, policy, political, legal, practice, and civic arenas. Space is too short to synopsize this dense and highly referenced paper. The gist of their argument is that when consumers could purchase foods year-round (apparently overcoming biological constraints), when so many entities supported the notion that humans should control nature, and when industrial agriculture became embedded in market and government institutions, industrial agriculture gained quite strong legitimacy.

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The authors proceed to argue that agroecology—which doesn't yet have credence among many different actors and institutions—must pull together many of the same threads, but employ quite different concepts. In the scientific realm, de Wit and Iles suggest that agroecology deepen its empirical foundation by conducting many more detailed and site-specific research projects that compare agroecological and conventional practices as to their ecological, social, and environmental consequences. This will often require transdisciplinary collaborations and systems approaches. Armed with the results of such research, public institutions (legislatures, government departments, and courts) can more easily lift up the findings and legitimate policy changes that will support agroecological practices.

But no matter how compelling scientific findings might appear, they are not adequate by themselves to engender legitimacy (de Wit & Iles, 2016). Agroecology needs to be incorporated into the cognitive and cultural concepts that people hold about food. This means working with others, such as psychologists and communication experts, to find new language to describe agroecology, as well as offering ways to engage new ethical underpinnings as the arguments for a new norm.

Two writings on another issue, meat consumption, provide examples of the need for transparent assumptions, clear thinking, and critical analysis. The first is a report from a Dutch bank, Rabobank (Sawyer, 2016), on a recent large rise in meat consumption in the U.S. The second is an article in Vox about the Rabobank report that describes the reasons why it is so hard to change meat-eating behaviors (Barclay, 2016). The report shows that, due in large part to falling prices, per capita meat consumption went up 5% in 2015, the largest increase in 40 years. Consumption had been lower between 2005 and 2014, due mainly to reduced supplies and higher prices. Rabobank's prediction for at least the next three years is that the 2015 growth rate in consumption will taper to a rise of about 1.5% per year, with beef leading the way as the cattle herd is rebuilt, along with the pork and chicken industries expanding their capacities.

Considering all the other factors that will encourage increased meat production, including trade, the changes in consumption put into relief the fact that the many efforts to decrease meat consumption are not succeeding—although it may be that consumption would be somewhat higher without those efforts (Barclay, 2016). The prevalence of vegetarianism also is rising (Barclay, 2016), but not at a fast enough rate to be significant.

The writings I've just described are two of many examples of challenges to the ideas and strategies that people in the sustainable food and

agricultural community have pursued for some years. There have been many successes, but so much more is required to reach a tipping point. These new analyses are also exemplars of the complexity of most of the problems we are trying to right. Their complexity makes them hard to grapple with—but that doesn't mean we shouldn't. We can bring new tools to bear, including the application of systems concepts. This entails bringing together diverse voices on issues, with subject matter expertise, time to explore options and reflect, and humility about what we know and don't know.

Barclay writes that the "activists who desperately want us to cut back [on meat consumption] may need to think harder about what messages American consumers really respond to" (para. 7). It may be that some of our assumptions about what drives behavior have been wrong, or that we have not adequately acknowledged all the strands that have to be brought together to build legitimacy for our ideas. Fortunately, compared to 30 years ago we have myriad new analyses, data sources, guides (such as the 2015 food systems assessment report from the Institute of Medicine and National Research Council), insights from fields like psychology, and methods for helping diverse and contradictory voices reach common ground. I hope we can use them to address the old and new challenges coming our way.

Applying systems concepts entails bringing together diverse voices on issues, with subject matter expertise, time to explore options and reflect, and humility about what we know and don't know.

References

Barclay, E. (2016, August 18; updated October 1). Americans should eat less meat, but they're eating more and more. *Vox*. Retrieved from http://www.vox.com/2016/8/18/12248226/eat-less-meat-campaign-fail

Clancy, K. (2015). Another argument for adaptability. *Journal of Agriculture, Food Systems, and Community Development, 5*(2), 7–10. http://dx.doi.org/10.5304/jafscd.2015.052.007

de Wit, M. M., & Iles, A. (2016). Toward thick legitimacy: Creating a web of legitimacy for agroecology. *Elementa: Science of the Anthropocene*. http://dx.doi.org/10.12952/journal.elementa.000115

Institute of Medicine & National Research Council. (2015). *A framework for assessing effects of the food system: Report brief*. Washington, D.C.: The National Academies Press. Retrieved from http://dels.nas.edu/ resources/static-assets/materials-based-on-reports/reports-in-brief/FoodSystemRBFINAL.pdf

Meadows, D. H. (Author) & Wright, D. (Ed.). (2008). *Thinking in systems: A primer*. White River Junction, Vermont: Chelsea Green Publishing.

Sawyer, W. (2016). Chickens, cows, and pigs…Oh my! (Rabobank Industry Note No. 560). Utrecht, The Netherlands: Rabobank. Retrieved from https://research.rabobank.com/far/en/sectors/animal-protein/chicken-cows-and-pigs-oh-my.html