



METRICS FROM THE FIELD

Blending insights from research with insights from practice

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Letting food systems emerge

How do we measure progress in an emergent system?

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What if we assessed food systems as *systems that are adapting*, and not simply as static objects of research? What if we examined their underlying dynamics, rather than limiting ourselves to measuring only performance or impact? What if we embraced the complexity of the moment, and moved beyond linear models? These questions are gaining primacy as the global food movement both grows in complexity and gains momentum.

Consider what is taking place in the U.S. this summer of 2010: urban dwellers till vacant lots, lay irrigation pipes, swap seeds, challenge each other to exercise and eat better, and aggregate fresh produce to sell at commercial scale; immigrant farmers adapt seasoned skills and intensely

*The movement promoting community-based foods in North America is already larger than the Civil Rights movement, in terms of the number of people and the number of communities engaged. Yet for all of our work to reconfigure food systems, we often fail to use systemic approaches. In this column **Ken Meter** suggests how we can assess the movement's impact in ways that don't confine its emergent character.*

effective work habits to their new homelands, creating highly productive farms; twenty-something, college-educated urban young adults start farms on rooftops; farm commodity groups try to define their stance on local foods; year-round greenhouses move off the fossil fuel grid; urban, suburban, and rural regions launch local foods coalitions; and farm and food businesses explore ways to collaborate with each other to reduce costs and expand market opportunities.

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Each of these erupts rapidly as well as independently. Scattered and vibrant, they stretch boundaries. It is hard to see, let alone measure, changes in, the “food system.” Yet, even with all this complexity, there are ways to conduct food system assessments that don’t confine the options for action by imposing simplistic measures.

In “complex adaptive systems” such as these, controlled research may be impossible. Systematic academic inquiries of individual components (e.g., the producers, consumers, processors, and distributors in a “supply chain”) may be necessary, but may not be necessarily sufficient, to inform public policy or guide effective actions. For example, even if each of the components of a “supply chain” were to gain strength, the system as a whole might fail due to some underlying dynamic affecting the synergies of these components.

In an adaptive context, the measures of success may themselves change over time. Indeed, no single perspective will be sufficient to understand how the system is functioning; embracing multiple points of view is critical. Both objective knowledge and subjective insights will be required.

My recent study of the Minnesota food industry (Meter, 2009) aimed to present such an adaptive systems view. By focusing on emergent business networks, the study revealed key systems shifts that are already underway — patterns that show how the system is adapting. Essential new insights were gained by looking at global, national, and regional forces *from the perspectives of people in communities*.

Guiding assumptions of this work included the following:

1. Analyzing patterns that appear in time-series data (in this case, farm cash receipts and production expenses) is a critical quantitative element;
2. Tracing financial flows through communities is essential in food-systems assessment;

3. Examining the dynamics found at the margins of the system, where it interfaces with its external context, can give crucial insights into the system itself;
4. Adopting the viewpoints of multiple observers reveals key insights not visible from a single perspective;
5. Considering what is emergent in the system (that is, the structures, patterns, and properties that arise from self-organization) will lead to many of the most robust insights;
6. Gleaning expert insights from “wise practitioners” (those with seasoned experience in the field) is vital for building a fairly complete understanding; and
7. Recognizing that while working from a detached perspective is essential, it is also important for the researcher and the audience to accept that we all work in, live in, and are influenced by the food system itself, such that this analysis is inherently performed from within the system, and cannot be considered wholly objective.

The Minnesota study began with a brief narrative covering four key food industries in the state: dairy, vegetables, beef, and apples. This allowed complex dynamics to be encapsulated in the stories of specific places and people. An historical economic overview followed, using quantitative data to outline key financial dynamics. Finally, four leaders of emergent food industries offered insights into the workings of the sectors in which each trades. Several appendices added reference data covering specific foods and markets.

As I prepared to interview the owners of several multimillion dollar businesses, mentioned below, each of whom is on the cutting edge of creating a new food system in Minnesota, I had expected to glean deeper insights into competitive pressures in a stressed economy. Indeed, such insights were certainly there to be found. Several CEOs naturally

considered hard-nosed cost-cutting critical to their successes. Yet, they added, something else was even more significant: developing relationships of trust with suppliers and consumers. These “soft” business skills, they said, were the most critical to their success. As one owner put it, “If I don’t trust my suppliers and customers, or if they don’t trust me, this business fails.”

Moreover, the CEOs of these firms surprised me by pointing out that despite their successes in shaping an emergent community-based food industry, the economic contexts in which they worked were often their biggest obstacles. One business owner told me that his family had worked for three generations to produce a high-quality product — yet the market had almost no way of rewarding that quality. The apples he shipped gained more value in the 36 hours after they left his warehouse than they had in five months of being carefully nurtured in the orchards — despite the fact the family’s brand is highly regarded. The financial benefits went elsewhere.

Another CEO told me that his medium-sized meat-processing firm carried costs that were far higher than the conventional commodity economy — his work costs 35 cents per pound, compared to three cents per pound for competing processing. Yet because he has built niche markets (including quality items priced low enough for an average family) at both the national and local levels, he continues to employ 60 employees. He credits his success with forming strong relationships of trust with workers, suppliers, and buyers. He has even helped related businesses to spin off, not only to bring himself new trade, but out of a civic commitment to building a stronger region.

Looking over the findings of these exceptionally candid interviews with successful food businesses,

three qualities distinguished their approaches to commerce.

1. **Relationships:** Each formed relationships of trust with suppliers and customers, and devoted their firm’s resources in part to strengthening this loyalty, not simply to trimming costs. Each saw itself working as part of a cluster of businesses, not as a stand-alone firm. Some devoted their attention to helping other firms they could depend upon over time.
2. **Resilience:** Each firm anticipated potential shortages of oil, climate, and unpredictable changes in consumer demand. They relied on a blend of distant and close markets, and opted for greener technologies as they could.
3. **Recycling:** Each firm made conscious efforts to build financial flows that recycle money and other resources through their locale; each helps build local economic multipliers.

Focusing business strategy in these ways moves system “levers” that shift the food system toward a community basis. I have come to believe this is true in the U.S. as a whole, not just in Minnesota.

These same strategies strengthen urban gardens, immigrant farms, and food business clusters alike.

Which brings us back to the assessment question. How can we perform food-system assessments in ways that recognize how food systems adapt? When we view food systems as adaptive systems we look for patterns of emergence,

rather than relying solely on comprehensive counts of inputs and outputs. If we speak with those most

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affected by the system, gaining insight from the metrics used by those in the field, we may learn underlying dynamics that are not visible from an external viewpoint. If we embrace the complexity of the moment, we might release energy rather than contain it.



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