Conceptualizing US Food Systems With Simplifying Models
Findings From TalkBack Testing

Prepared for the Frameworks Institute

By
Axel Aubrun, Ph.D., Andrew Brown Ph.D., and Joseph Grady, Ph.D.
Cultural Logic, LLC

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SUMMARY

Background

The research reported on here focused on identifying one or more "simplifying models" to help Americans think more productively about Food Systems. Previous research efforts on the part of the FrameWorks Institute and its research partners (including Cultural Logic) had established that members of the public have no clear understanding or mental image of the Food System (or of individual food systems that yield particular foods). Instead, for a variety of cultural and cognitive reasons, they toggle between a dominant, "little picture" focus on the lived experience of food – shopping, cooking, eating – and an exaggerated picture of a totally "modernized" food production system, where nearly all food is produced in the equivalent of factories, and bears little or no connection to natural systems. (The latter pattern emerges particularly when people are pressed to think about how food is produced – the former is a much stronger default.) Without a more realistic perspective on how food is produced and distributed, Americans are poorly positioned to engage with important issues that experts are concerned about, and are not able to appreciate the importance of various policy approaches to improving the situation.

Experience on other issues suggests that one way of raising engagement and improving the public conversation is to provide Americans with conceptual tools that can help them think not like experts, but like "managers," with a sufficient sense of the "big picture" that they can form reasonable opinions and act on a sense of collective responsibility.

Approach

Simplifying models are brief, "user-friendly" explanations that help lay people understand an issue in a way that is compatible with expert understandings. Simplifying models often involve analogies with familiar objects or scenarios. (Examples in other issue areas include "the blanket of carbon dioxide" that traps heat in the atmosphere and causes global warming, and the ways in which early experience shape the development of a child's "brain architecture.") Along with values messages, recommendations about compelling messengers, and so forth, simplifying models typically form one key piece in the overall communications strategy that emerges from Strategic Frame Analysis.

The process of developing simplifying models involves iterative stages of analysis and empirical testing, resulting in continuous winnowing and refining of hypotheses – it amounts to an open-ended process of invention and testing. The early goal is to identify a wide variety of conceptual directions, through a review of relevant texts (including those produced by advocates), conversations with experts, and so forth. Cognitive analysis and "TalkBack Testing" then allow the researchers to judge whether particular conceptual models have the potential to enter public discourse and to have positive impacts on thinking. TalkBack Testing involves a variety of techniques, from one-on-one interviews to written questionnaires to "chains" of subjects engaged in an exercise something like the child's game of Telephone. In each case, subjects are presented with a brief explanatory text (roughly 100 words) that focuses on getting people to think about

Food Systems in a new way. Measures of the effectiveness of the simplifying model include subjects' ability to remember, explain, use and repeat the explanatory idea. In other words, the testing is designed to assess whether the model has the capacity to become an organizing principle for thinking and communicating about Food Systems.

We explored 9 conceptual directions, within which approximately 40 candidate models were tested with over 650 lay people. The conceptual directions present a wide variety of approaches – from the impacts of economic and biological consolidation, to the vulnerabilities created by the ever-lengthening food production chain, to declines in food quality caused by mass production/distribution methods (see discussion in the body of the report).

Recommendation

The simplifying model that emerged from this round of research includes 2 components that taken together effectively promote a viable "big picture" of food systems:

A general proposition

> Our methods of producing food have become so powerful, and are so uncontrolled, that they are threatening systems that are vital to our wellbeing.

This proposition highlights three simple ideas:

- The scale and power of current methods of food production and distribution is unprecedented.
- The damage that these methods can cause is unacceptable.
- These powerful methods are currently uncontrolled.

At the level of language and metaphor, testing established that the term ***Runaway Food System*** effectively conveys the sense of a massive and powerful force that is dangerously out of control (by analogy with runaway trains or trucks, for example). And the image of damage to ***Foundations*** is an effective way to convey the idea of unacceptable damage to systems and structures we depend on.

Illustration of this proposition with examples from the real world

The simplifying model was found to be more effective when accompanied by specific cases, such as the following:

- Farming chemicals like pesticides and weed-killer are permanently altering our soil and water.
- Genetic engineering is changing the nature of the plants and animals we eat.

- Mile-long fishing nets are dragging the ocean floor and altering ecosystems.

While the examples can vary, providing specific examples is very helpful in helping lay people think about the issue. From a cognitive perspective, the examples support the general proposition by referring to real situations, and conversely the general proposition supports the examples by making sense of them.

The following paragraph illustrates the use of the explanatory model, and was successful in testing:

> Experts are increasingly concerned about what they call our Runaway Food System. The way we produce food today has radically changed, and now has the power to alter the foundations of life as we know it almost by accident. Farming chemicals like pesticides and weed-killer are permanently altering our soil and water. Genetic engineering is changing the nature of the plants and animals we eat. And mile-long fishing nets are dragging the ocean floor and altering ecosystems. America needs to retake control of this runaway food system before it does more damage to the foundations we depend on.

Each of the elements of the model contributes something different to the explanatory story, but they work together to convey a coherent idea that strikes people as clear and important, and helps them shift to a more engaged and productive stance. The following are some of the key features of the model:

- It provides a concrete image of the system as a whole, and helps people move beyond their default focus on the individual experience of food.
- It strongly conveys the sense that management of the Food System (which can otherwise strike people as a non sequitur) is both possible and essential. It helps people focus on the importance of collective solutions (including policy).
- It clearly communicates the seriousness of the problem – damage to "Foundations" is not something responsible people can ignore.
- It is compatible with a range of important ideas. E.g., it implicitly suggests threats to health (which emerged as an effective message theme in focus groups conducted by Public Knowledge). It is also compatible with and can help strengthen discussions of many different aspects of production and distribution.

While the illustrative examples in this particular paragraph reflect the fact that TalkBack subjects were most easily able to focus on damage to *natural systems* – as opposed to social and economic systems, for instance – it is important to note that the model was not interpreted as a strictly environmental message. Rather, subjects' responses showed that the *practical* aspects of the explanation were central – this is a problem that everyone, not just Sierra Club members, should be concerned about. Especially encouraging was the

fact that many self-described conservative subjects, who might be expected to dismiss the idea of government "interference" in the food industry, felt that policy intervention was called for.

TalkBack testing with over 650 laypeople established that a discussion with this focus allows Americans to avoid many of the serious pitfalls that usually plague thinking on food and food systems, and moves people in other, more productive directions.

It should also be emphasized that the language in the paragraph is not intended to be repeated verbatim. The value of the simplifying model is that communicators with a wide variety of perspectives and circumstances can use it as an explanatory tool and organizing principle, while adapting the examples to suit their own context, as long as these adhere to the core elements of the model.

The results of TalkBack testing suggest that the Runaway/Foundations model has the capacity to shift public reasoning and discourse in productive directions, and to help Americans move beyond the counterproductive reasoning traps that are currently making progress in this area more difficult than it has to be.

INTRODUCTION

This report is part of an ongoing effort to help Americans think more productively about the topic food systems. The research and recommendations presented here build on past rounds of research conducted by FrameWorks Institute research partners, including Cultural Logic, and funded by the W.K. Kellogg Foundation[1].

This type of research focuses on one specific component of communication – *explanations* designed to improve people's *conceptual understanding* of an issue. In the broader context of strategic frame analysis, simplifying models represent one of several tracks designed to work together in a communications strategy – for instance, the simplifying models should ultimately work to reinforce (and be reinforced by) the theme of Health, identified as an important organizing domain in the focus group research. Explanatory models help fill in people's conceptual picture of an issue, while other elements of framing move thinking and discourse forward through other different and complementary means.

Simplifying models development consists of two phases: First, exploration of the gaps in people's current understanding – as well as other cognitive obstacles standing in the way of learning; and second, testing of explanatory strategies with the potential to move reasoning in a more accurate and productive direction. The current work has continued the exploratory process begun in the earlier phases of research, and yields language and a conceptual direction with an empirically demonstrated ability to improve average Americans' reasoning and engagement on issues related to food systems.

The missing piece in the public's thinking: A Systems view

Earlier rounds of research conducted as part of the FrameWorks effort suggest that a major obstacle to public engagement in this area is an inability to see food production and distribution in *system* terms. Food production and distribution constitute a broad and enormous set of interconnected components that have both direct and indirect impacts on each other, as well as on domains that are not immediately associated with food production and distribution (e.g., environmental and social).

One of the chief differences between how experts and advocates understand the issues of food production and distribution, and how the public thinks about these topics, is that laypeople lack insiders' ability to adopt something like a bird's eye view of food system(s). It is important to emphasize that while a systems view is compatible with detailed knowledge, *one does not have to be an expert to take a systems view*. Taking a systems view amounts to a frame shift, comparable to seeing a Necker cube differently – it does not depend on, is not the same as, and doesn't necessarily follow from, learning lots of new information.

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[1] For an overview of the larger project, as well as additional published reports, please visit www.frameworksinstitute.org.

The difficulty of taking a systems perspective

The elicitations research conducted by Cultural Logic identified two important factors that make it difficult for laypeople to adopt a systems perspective when they think about sustainability in food production and distribution:

- *Systems thinking is cognitively unnatural*
  Systems thinking is, by its nature, somewhat counterintuitive for people with no special background on a given issue. It requires thinking about things that are complex rather than simple, abstract rather than concrete, hidden rather than visible, statistical, and multi-dimensional.

- *The dominance of lived experience blocks out systems thinking*
  Most of the time, for most Americans, thinking about food is dominated by default understandings and emotional stances that are based on the lived experience of eating, shopping, cooking, being served, and so forth – together, these forces strongly guide people to a consumer-centric and little-picture view of food. These well-established aspects of people's thinking about *food* make it much harder for them to think about food *systems*.

Even when people are able to catch glimpses of the larger picture – e.g. when a particular food scare briefly dominates the news, publicizing specific aspects of food production or distribution – this moment of insight does necessarily lead to a productive systems perspective. One reason is that the cognitive and emotional tendencies that lead to little-picture thinking in the first place are strong enough to reassert themselves following the moment of crisis.

Another reason is the dominance of what we have previously called the "Modernization Story," according to which the negative effects of the current food system – that lead experts and advocates to call it unsustainable – are understood as the *unavoidable price of progress*.[2] Because it is about developments much broader than changes in the food system, and has no place for many of the particular concepts that are important to food advocates, the Modernization Story is a big picture narrative that competes directly (in a cognitive sense) with the perspective that food advocates are actually interested in. That is, if people's thinking is guided by the Modernization story (as it often is, once the question of food systems is explicitly raised), many of the issues that concern advocates are vulnerable to being reframed in a way that minimizes the relevance of collective responsibility and choices. (Toxic pesticides become just another tool we can no longer do without, for better or worse, etc.)

Another reason that glimpses of the food system don't guarantee a shift to productive perspectives is that default patterns of thinking tend to isolate particular pieces of the

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[2] A. Aubrun, A. Brown, and J. Grady; July 2005; *All Trees and No Forest: How Advocacy Paradigms Obscure Public Understanding of the Food System*

picture, and to emphasize the trees over the forest.[3] For example, discussions related to *sustainability* are often organized by self-contained *paradigms* (e.g. Organic food, Small Farms, Local food) that are largely insulated from other issues, and therefore do not effectively contribute to a bigger picture of the food system. An issue such as a Living Wage For Farm Workers focuses on a situation plus a motivating *value*, such as Fairness. This combination of situation and value is sufficiently rich to guide reasoning and feel like a world unto itself, in a way that connects little if at all to a paradigm focusing on environmentally sustainable agriculture, for example.

As a result, even though specific issues often do motivate people to take action, e.g. to save dolphins, these moments do not necessarily promote systems thinking. Instead, they may have the reverse effect, by reinforcing a consumer-centric perspective that limits the available "solutions" to buying behavior.

The importance of a systems view

The effort to provide the public with a usable understanding of food system(s) as a whole is not an exercise in public information for its own sake. As we have already mentioned, one of the clearest patterns in Americans' thinking in this area is the power of defaults that focus on a little-picture, consumerist perspective. Getting past this daunting hurdle is essential to engaging support for policy solutions. Furthermore, there are a number of other important reasons why advocates should be doing more than they are now to provide the public with an overarching picture.

Visibility of hidden factors and effects

Many, if not most, of the components of food systems are not visible to the average person. A systems view allows those components to stay in mind, because they make sense and are part of a coherent picture.

Patterns across issues

Food systems cut across a bewildering array of domains – from health to environment to social justice to biotechnology, to name just a few – that are not naturally linked in people's minds. A coherent system-level picture can allow these domains to be linked in a coherent way, rather than competing in people's minds.

Long-term view

It is often not cognitively natural for people to focus on long-term outcomes. Taking a systems view means shifting the scale of temporal thinking, and more easily taking account of effects that might be far in the future from the individual perspective.

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[3] A. Aubrun, A. Brown, and J. Grady; June 2005; *Not While I'm Eating: How and Why Americans Don't Think about Food Systems*.

Importance of responsible management at a collective level

The natural tendency of the public (maybe the American public in particular) is to look for individual solutions to problems, with a strong emphasis on personal responsibility. Problems of sustainability occasionally lend themselves to individual solutions, but in most instances require collective solutions – an approach that is very compatible with a systems perspective.

The rest of this report discusses the development of a simplifying model that makes the food system as a whole "easier to think."

The Simplifying Models Approach

Simplifying models are brief explanations that convey the essence of an expert understanding, in a form suitable for highly efficient communication with the broad public. A successful simplifying model has two important qualities: (A) It has the capacity to enter public discourse (i.e. it is easily learned, remembered, used, transmitted), and (B) It produces measurable positive effects on *understanding* a given issue.

While reading this report, it will be helpful to keep these and a number of more particular points in mind about the nature of simplifying models and what they are intended to accomplish:

"Missing Links"

On a broad and complex topic like "US Food Systems" there are innumerable facts and propositions that it might be useful for the public to understand. One critical job involved in the process is determining, through both analysis and testing, which pieces of knowledge do the most to promote better understanding.

Cultural Compatibility

Explanations typically cannot be remembered, used or repeated in the form that experts provide – expert explanations are notoriously complex and jargon-filled, and inevitably make unwarranted assumptions about what ordinary people already understand. Simplifying models research focuses on ensuring that a model is in a form that is compatible with how people actually think and communicate with each other.

"Parallel Track" Approach

Simplifying models are not conceived as stand-alone messages. Instead, they are critical *components* that provide a conceptual organizing principle. They work in tandem with other elements of an effective communication – such as proper framing in terms of "level-one values" identified in other phases of research, including elicitations and focus groups.

Concrete Images

It is a general cognitive principle that *objects* make good anchors for thinking – providing people with a new object to think about (such as "brain architecture" in the case of early childhood development, or "patchwork" in the case of rural basic systems and infrastructure) is a helpful way to introduce new understanding.

Concrete analogies and metaphors frequently make effective simplifying models – but if language is too obviously metaphorical, it can be ignored in favor of the "more basic" point, or can be uncomfortable for expert communicators.

Causality

Because simplifying models are ultimately intended to support changes in policy, they need to imply something about cause and effect. If uninsured individuals are "Missing Pillars" in the healthcare system, for instance – they are not participating in the overall financial structure that supports the system – then uninsurance is destabilizing, and the problem must be addressed. A runaway train is something that will cause damage, but only if it is not brought (back) under control in time.

New and interesting

In order to overcome people's strong tendency to interpret new information as a mere restatement of some already-familiar idea, it is important to find explanatory tools that seem clearly to be expressing something new (as well as relevant).

Big Picture

One of the key goals of most simplifying models projects, including this one, is to help people see a "bigger picture" that transcends individual perspectives and concerns. Food issues should not be reduced, for example, to the question of which foods contribute most to individual health.

In the next section we discuss the methods used to arrive at a simplifying model with these properties.

METHODS

The process of simplifying models development involves iterative stages of analysis and empirical testing, resulting in continuous winnowing and refinement of hypotheses.

The assessment of a model's effectiveness begins with qualitative testing (see the discussion of "TalkBack" below), but within the larger FrameWorks approach, models are ultimately subjected to quantitative testing in survey research, to confirm their ability to support and extend values and other frame elements.

Generating Directions

The initial stages of the project involved an effort to identify a wide variety of potential avenues for analysis and testing. These ideas were generated through discussions with experts and advocates in the field, review of materials produced by these experts and advocates, and discussion with colleagues (i.e. the FrameWorks Institute and other research partners). This stage of simplifying models development resulted in a long list of potential explanatory directions that were later evaluated and/or tested with members of the public.

TalkBack Testing

TalkBack Testing is an approach that includes a number of different specific techniques, all aimed at assessing candidate models on the two basic criteria:

> Do they have the potential to enter public discourse?
>
> Do they have positive impacts on thinking?

In either formal or conversational settings, subjects are presented with "candidate" simplifying models, and then their subsequent understandings and ability to express them are evaluated in a variety of ways.

Subjects

In all, roughly 650 subjects from around the US participated in this phase of the project. This group was diverse in terms of occupation, education level, ethnicity, age, gender, geography and political orientation. Approximately 310 people took part in one-on-one phone conversations, and roughly 80 subjects participated in "TalkBack chains," described below. (Conversations and TalkBack chains were recorded and transcribed before being analyzed.) Another 260 subjects responded to open-ended questions on written questionnaires.

Stimulus

Whether in phone interviews, street intercepts, or written questionnaires, the material for TalkBack testing consisted of very short texts (roughly 100 words) about some topic related to US food systems, e.g.,

> Economists who are looking to the future are concerned that we're losing our Food Supply Foundation. Our nation's ability to feed itself depends on a sturdy and stable foundation of natural resources, skilled farming communities, sensible tech development, a good food circulation system and so on. Many of today's practices work for the short-term, but over the long-term they are destroying and undermining the Foundations of the food supply. Like the foundation of a house, most of this is "out of sight, out of mind," but experts who are studying this issue already see damage, and expect more in the future if things keep going the way they're going.

Each text was organized around a particular explanatory model (in this case responsible management of our "Food System Foundations").

Following exposure to the paragraphs, subjects were asked to respond in various ways. Sometimes they answered policy-relevant questions such as the following:

- According to the experts, what's the matter with the US food supply?
- Who's responsible for making sure that the food supply system is going to work for the long haul?

In oral contexts, subjects were also asked to repeat as much as they could remember about the paragraphs they heard. Subjects' ability to remember and express a simplifying model are among the key criteria of its effectiveness. Others include:

- Subjects' ability to use the model in ordinary conversation, drawing new inferences beyond what they have specifically been told
- Their tendency to "stay on track," rather than digressing to other topics
- Most obviously, their tendency to engage in productive thinking about the topic, and to avoid common counterproductive patterns.

TalkBack Chains

The most distinctive technique of TalkBack testing is the "TalkBack Chain," which resembles the childhood game of Telephone (or Gossip). This approach aims at assessing the capacity of a model to enter public discourse, and the likely ways it will be distorted over time. In the TalkBack Chain methodology, subjects are presented with a paragraph

as described above, and asked simply to pass the information along to other subjects as faithfully as possible. After they have explained the information the "teachers" exit and new "students" are brought in and the chain continues, for up to eight or nine "renditions."

Initial presentation → 1st rendition → 2nd rendition
→ 3rd rendition → 4th rendition → …

Researchers provide no input after the initial presentation. Subjects are not allowed to take notes, so any information that is passed along must be remembered and internalized, at least to the degree that it can be explained during the brief "training" session. Note that each generation usually includes a pair of subjects working together, to reduce the chances that a chain will fail due to a single individual who for idiosyncratic reasons does not do a good job of absorbing or explaining the information.

TalkBack chains represent a surprisingly difficult test for any candidate message. As each generation of subjects is exposed to the material, participants have strong tendencies to distort the information (typically in the direction of previously familiar ideas), and to introduce unwanted elements, or simply to forget what they have heard. The chains provide a severe test of the clarity and durability of an explanatory message. By assessing subjects' acceptance of and facility with different models – as they try to explain and reason about the issue – we can make predictions about how effectively particular messages will be absorbed and used once they are disseminated to the public.

The strongest explanatory models show some ability to self-correct – i.e., subjects can end up arriving back at something close to the original formulation, even if they themselves heard a somewhat distorted rendition.

CONCEPTUAL DIRECTIONS AND HOW THEY FARED

Because the topic of food systems is so very broad, there was a wide range of propositions that presented themselves as possible bases for a simplifying model. That is, there are a number of important propositions that seem to have the potential to significantly improve understanding and engagement, and to lead people towards a big-picture perspective on the issue.

1. The current system as dangerously complex: Lengthening of the Food Supply Chain

This direction was intended to help people understand that changes in our methods of food production and distribution have led to increasing *vulnerability* of the system– more steps means more opportunities for problems, and greater difficulties with monitoring.

> Sample paragraph:
>
> Experts are concerned with what they call the Stretching Food Supply Chain. Food is not just passed from farm to market to table anymore. In recent years most of what we eat comes from food supply chains that have grown longer and more complicated. The links pass through more hands, more labs, more processing facilities, more countries, etc. Most of this Stretching Food Supply Chain is out of sight, and really out of our control. No one is really accountable for the whole thing. Experts are saying that we need to shorten the Chain or at least do a much better job managing it.

In general, subjects quickly grasped the concept. They were able to engage with the idea of there being too many "links in the chain," and were concerned that the chain has passed out of sight.

> *The more steps you have in anything -- it gets possibly a weak link and when it gets a weak link then it gets damaged . . . The less steps you have -- the chain has a stronger chance of [not being] damaged.*
>
> Liberal woman from Arizona, age 63

Q: What's one step we could take to address the problem?

A: Buy from local producers and don't buy as much processed foods. … The experts said we just need to shorten the chain.

Liberal woman from Rhode Island, age 32

> *[We should] shorten the food supply chain, and appoint a sort of regulatory oversight to it and bring it out into plain sight.*

Liberal man from California, age 40

A: There's too many hands it has to pass through before it gets to the consumer and through all those hands, there's not enough accountability and anyone to oversee the entire process.

Q: Does this affect the food we eat?

A: Well, it wasn't really stated in the paragraph. In my opinion though, yes definitely. You know, anything that goes through tweaks and changes -- through that many processes without that quality control, there's more chances for things to slip by that aren't healthy for people.

Liberal woman from Minnesota, age 27

Some subjects were also able to relate the Stretching Chain model to easily-understood stories about change over time.

The chain is longer than when I was growing up. You know, I'm 63 years old. Things came from your local area more. Now the big grocery stores are conglomerates and you don't know where things are coming from or how long they've been stored and whether they've been stored appropriately.

Liberal woman from Arizona, age 63

For some subjects, the paragraph was most easily understood in terms of literal, geographic distance. While not exactly the intended meaning, this interpretation did lead to some useful reasoning:

In the paragraph that you read, you were talking about the length of the food chain and whether that increased length would have any problems associated with it . . . It raised my awareness of [how] we are importing more products, from South America -- Chile and places like that. Does Chile have the same environmental protections and food protections that we here in the states and should the FDA be more involved with it?

Conservative man from California, age 76

If the chain is that long, what happens to the freshness of the foods? It's simple, but true. Fresher foods tastes better and it most probably better for our bodies.

Conservative man from New Jersey, age 33

Ultimately, the reason this model does not get our highest recommendation is not that it failed in testing, but that its conceptual effects are limited. First, because there are important messages that the model cannot convey. Since the model is primarily about processing and distribution, it does not address any of the environmental, social, or economic problems associated with our food *production* systems – many of which are at the heart of arguments about sustainability, for instance. And since it is focused on vulnerability of the food supply, it is difficult to apply to any issues relating to social or economic justice. Finally, discussions based on this model tended, more than some others, to allow subjects to stay in little-picture, consumerist mode. Ultimately, the stakes are all about the quality of food on supermarket shelves.

Complexity Collapse

A broader but less successful variant on the Stretching Chain was the Complexity Collapse model. This approach tried to suggest a general problem with the increasing complexity in all areas of the food system.

> Experts who study the American Food supply are worried about something they call "Complexity Collapse." Complexity Collapse is what happens when a simple and fairly local system – like the farms, markets and stores of our familiar food supply system – builds itself up into a complicated, national and even international thing – which we no longer really understand or manage. Biotechnologies, genetically modified foods, and factory farming are all things that produce more food, but they also create new and unpredictable problems that could cause entire sections of the food supply system to collapse.

This stimulus did succeed in raising some anxieties about how things have gotten out of our control.

> *Q: What do experts mean by complexity collapse?*
>
> *A: We've lost track of how our food is either created, shipped, manufactured etc. and it's just out of control.*
>
> *Q: And why is the food supply threatened by complexity collapse?*
>
> *A: One group can do one thing and another group can do the shipping or something else and they don't talk. Nobody knows what's going on elsewhere. So if one section falls apart then it could easily all fall apart.*
>
> Conservative woman from Florida, age 36

Pairing "collapse" and "complexity" prompted some subjects not only to worry about a system that was somehow out of control, but also to think in terms of large-scale, collective solutions.

Q: What is complexity collapse?

A: When the farming system builds up too big domestically and internationally -- too big that they can't manage those trends such as manufacturing, biotechnology, and it produces unpredictable hazards that could produce a collapse of that system. It just gets too big. You can't manage it efficiently. Too much is involved. Too, a lot of the synthetics and preservatives they just keep adding -- it just complicates and just gets everything too . . . I just think out of hand. Government needs to get more involved . . . limit the processes in which people produce the food.

Conservative man from Michigan, age 28

Overall, however, the data suggested that the specific logic of the argument was too confusing and abstract to be very effective.

2. Sustainability per se

Generally speaking, sustainability is a concept that is missing from the American cultural repertoire. A number of candidate models sought to address this gap directly by explaining that our food production techniques are destroying our resource base, and so forth.

Overdrawing

One model was based on a bank account metaphor. This approach framed one of the basic tenets of sustainability in terms of an everyday concept, and was intended to help people understand an important mechanism in relation to their food systems:

> Economists looking to the future warn that we are overdrawing on our food supply system. Anyone with a bank account who always takes out more money than they put in eventually ends up broke and overdrawn. That's what we have been doing with our own food supply system – taking out resources faster than they can be replenished. From over-fishing the oceans and using up our stocks of fresh water and fossil fuels to destroying the farmlands and farming communities that have sustained us – we've gotten into a very bad habit of using up the very resources we need to keep things going.

This model did have some good effects. Testing suggests that it is conceptually clear, and successfully rooted in everyday action scenarios:

> *We're overdrawing on our food supply like we can overdraw on our bank accounts. We take out too much of our resources without thinking and being able to replace the resources, destroying our lands, our farmlands, our oil, our*

fisheries, by overdoing it and -- like not going to work for a paycheck, we're not replenishing it properly.

Liberal woman from Nevada, age 41

With anything that you have, you can use the excess but you have to leave enough behind to produce more so that you have a sustainable supply.

Conservative woman from Michigan, age 32

The central weakness of this approach relates to the solutions it suggested to subjects – either produce more (through technological advancement) or consume less (by reducing greed and over-consumption).

I don't know . . . the only thing you do is you either take out less or you produce more.

Conservative woman from Michigan, age 32

They are always assuming technology is static, which it isn't. We do find ways. All of those doomsday scenarios that originated in the seventies didn't happen.

Liberal man from Rhode Island, age 24

Q: What do you think we ought to do about this problem of overdrawing from our resource base?

A: Well, we need to stop. It's not like we need all this food anyway. Like going to the restaurant, you know, one serving of meat is the size of a small fist. But what we're getting and eating is like 3 times more than what we need. Everything is bigger than it used to be. That's why people are 3 times bigger too.

Liberal man from Massachusetts, age 28

But while the over-consumption idea is both conceptually and morally clear – it is about people who are wasteful, greedy, selfish, careless and short-sighted – it is also a very difficult sell in the current cultural environment. It requires critics to position themselves as champions of moderation and self-denial, and to directly take on the Indulgence and Freedom frames that marketers have woven into everyday culture.

The technological silver bullet solution is ultimately no more promising, since it does not call on citizens to take responsibility for, nor even to understand, the workings of the food system.

Overfishing

A closely related direction focused on a particular prototype of the overdrawing idea, namely the idea of over-fishing. This approach was meant to portray a system that can either be managed well (for maximum long-term benefit) or managed poorly (for short-term benefit).

> One example has to do with how we get our seafood. Where fishing is unregulated, fishing operations strip the ocean of all fish - leaving none behind to reproduce. A section of sea that could easily produce a million tons of fish every year forever - instead produces 10 tons for a couple of years and then collapses when the breeding fish population is destroyed - taking decades to recover if it recovers at all. Short-term production and long-term destruction.

While subjects understood the concept, and often made the shift to Responsible Manager stance when confronted with the paragraph, the idea proved too limited to serve as a central explanatory point. Discussions tended to stay focused on marine conservation, rather than including sustainability issues more generally.

Perpetual Food Mechanisms

One of the missing pieces in the American conceptualization of food systems is the sense that we face collective *choices* about the particular mechanisms we use to produce our food, and the idea that these methods can either be sustainable or not. In this direction we tried to improve on the (broadly unfamiliar) notion of sustainability by offering people what amounts to a new term and definition for sustainability, and grounding it in the idea of particular mechanisms:

> Various experts from doctors to economists to environmentalists are urging the US to move towards what they call Perpetual Food Mechanisms. Every kind of food is grown or caught or collected in some particular way, called a food mechanism. *Perpetual* Food Mechanisms are ones that can be continued indefinitely because they don't damage systems that are necessary for the production of the food. This can mean natural systems - as when fishing wipes out breeding fish, or farming depletes soil nutrients or overtaxes water supplies. It can also mean human systems, as when low wages for farm-workers eliminate the communities of people necessary to do the work.

The minority of subjects already familiar with the idea of sustainability found the model clear (though they did not tend to adopt the candidate term.)

> *You mean like the things such as depleting the soil system. I think that's probably one of the biggest concerns is depleting the soil or not utilizing the*

> *soil we that we actually have and adding homes to lands that were used for agriculture. There's no way we're going to be replenishing those. So we're not moving forward; we're actually regressing.*
>
> Conservative woman from Arizona, age 39

Unfortunately, however, for most people it was not just the term that disappeared, it was the whole notion of *system*. People quickly reduced the message to a few familiar and narrow issues of resource depletion, like soil exhaustion and sprawl. A typical example is the subject below who adopts a conservation stance without any sense that we can choose among mechanisms in order to *manage* resources as opposed to just conserving or protecting them.

> *[Experts] are looking to protect the resources of foods and the resources of the supplier food, whether it's fishing or farming. Or overusing our land.*
>
> Conservative man from Wisconsin, age 33

In general, this direction didn't succeed in shifting people's thinking in any meaningful way, though it sometimes encouraged people to think about using fewer of our resources.

Self-Destructing Food Mechanisms

The flip-side of the previous direction is to concentrate entirely on the unsustainable mechanisms that need to change.

> Experts say there is a serious problem with how food is currently produced in the US and the rest of the world. Basically, our food supply mechanisms are self-destructing over time. For instance, many farming methods seriously deplete or contaminate soil, certain fishing methods disrupt ecosystems and wipe out fish species, and communities that produce certain crops get so poor they may disappear. This self-destructive aspect of food supply mechanisms is worrying everyone from economists to environmentalists to doctors. They say our society needs to make smart choices about the food systems we rely on.

This direction suffered from many of the same weaknesses as the one above. The main shortcoming of the model is that people did not pick up on the idea of *self-* destructiveness. They easily saw food production methods as destructive, but less easily recognized that the processes put their own continued existence into jeopardy.

> *I'm not concerned that it's a problem. It's more of an education thing -- to let people know to try to get sustainable agriculture or to start going to Whole*

> *Foods. The people that are most concerned, you know, should use their resources to educate people and then let the chips fall where they might.*
>
> Conservative man from California, age 43

Food Supply Nosedive

One of the chief obstacles to engaging the American public is that people's everyday experience of their food supply system is generally positive. Why change anything? The Food Supply Nosedive direction was an attempt to take on this complacency directly by depicting a future collapse.

> Economists who are looking to the future are warning that we are headed for what they call a Food System Nosedive. The Nosedive is coming because our current Food Supply system is good for short-term production but headed toward long-term destruction. At the moment there is plenty of production – but over the long haul our current practices are destroying the very natural resources, regional economies and local communities that everything depends on. If we are going to avoid the nosedive, we'll need to be smart enough to look ahead and change some of the more self-destructive food system practices.

Testing established that the term and image are durable and convey the intended meaning – a system that is heading for trouble. Importantly, the TalkBack conversations confirmed the finding from earlier research (including the focus groups) that despite their everyday complacency about their food, Americans have an underlying, unfocused anxiety about the state of their world and where it is heading – and they are perfectly willing to include the food system in that vaguely unsettled picture.

> *Q: What do you think experts mean by a food system nosedive?*
>
> *A: Well it could be things associated with the environment. Not properly preserving or protecting the environment, which could cause disasters in crops and cattle and that kind of stuff. There is the perpetual discussion of the ozone layer, creating these tsunamis and other hurricane activity and so forth. And there is always the ongoing debates over the chemicals that are disposed of improperly, leaching into the ground and so forth.*
>
> Conservative man from California, age 38

> *It seems like we're in trouble for getting things around, like our fuel supplies and energy and everything. I worry that in the future the whole production system will collapse. Because there won't be access to the fuel that's needed.*
>
> Liberal female from Washington, age 52

Ultimately we dismissed the Nosedive direction not because it was ineffective, but because it was *too* alarmist, and because the metaphor did not convey as many useful points as other models that were tested – e.g. any sense of particular causal mechanisms at work, or solutions that might help.

3. Consolidation and loss of diversity

One early set of approaches addressed the consolidation problem by criticizing the concentration of the food system in corporate hands.

Food Supplier Network

One of these directions portrayed the problem in terms of the shrinking number of major players involved in the food supply. This approach played on people's suspicions about corporations and the elites that run them[4].

> Experts have noticed with alarm that what they call the Food Supplier Network has quietly been taken over. A few Big Growers and Supermarket Giants make up a Food Supplier Network that used to be made up of thousands of small owner-operators - from individual growers to farm cooperatives and local supermarkets. Economists fear that as the network shrinks to a small, exclusive corporate club, competition and entrepreneurship will continue to decline and the food supply will become just another business sector suffering from downsizing and outsourcing. Experts agree that a more diverse and democratic Food Supplier Network is something we absolutely need for our national security and prosperity.

A significant weakness of this approach is the familiarity of the central story. Americans have heard many instances of big corporations "taking over" and "driving out the little guy." While this kind of familiarity helps make the story clear, the message is ultimately not treated as new information. People already "on board" with an anti-corporate perspective are easily persuaded, while others are not very impressed.

> *A: The smaller family farms are being destroyed and or being bought up by the agribusiness. It's like sayonara to family farms.*
>
> *Q: Do you think we should do anything about this?*
>
> *A: What do I know about family farms? I live in a suburb of New York.*
>
> Moderate woman from New York, age 58

[4] The corporate culpability perspective was strong enough among some advocates, and among some segments of the public, that this emerged inevitably as one of the themes in testing.

Just as importantly, the model does not suggest much in the way of concrete solutions. Americans are uncomfortable with the idea of direct interference in the realm of business competition.

Additionally, people are much more likely to understand corporate encroachment as a problem for small competitors (e.g. family farms and small groceries) rather than a problem that could affect them directly.

> *A: A lot of farmers are either going bankrupt or losing their livelihoods and their homesteads because the economy just isn't there to support them anymore.*
>
> *Q: What do you think we should do about it?*
>
> *A: I don't know. I honestly don't know what can be done.*
>
> Liberal woman from New York, age 39

> *I think we should support the little guy. Or grow your own vegetables.*
>
> Liberal woman from Kentucky, age 37

Overall, this direction didn't seem to have the potential to shift people towards more productive patterns of reasoning.

Narrowing Foundations, Single Source Food System

In these variations, we portrayed the consolidation problem using more systemic causal mechanisms. The stimulus paragraphs were designed to convey the expert argument that, as we lose diversity (in crops, methods, suppliers, genetic base, labor base and so on), the system becomes more vulnerable to failure.

> Narrowing Foundation
>
> Experts from economists to environmentalists are getting worried about the fact that there is less and less diversity in the food system that produces our food. The food system is too consolidated, too concentrated. There are fewer and fewer farms in this country, and fewer and fewer corporations in charge of all the food production and distribution. There are also fewer and fewer major crops that we rely on, and so forth. It's like we're building an important building on a narrower and narrower foundation. It's risky because, for example, a disease that affects a particular species of wheat could really hurt us, or a problem in how one particular corporation does business. What if that one company turns out to be Enron? It's like putting all our eggs in too few baskets.

Single-Source Food Supply

Food Supply experts are worried that we have recently been moving toward a Single Source Food Supply. Already, most of our food comes from just a few big companies, and a few major crops, instead of many different ones. And they worry that this over-dependence on just a few sources is increasing the risk of a sudden collapse of the food supply. Economists, biologists, health experts, and even national security planners all worry that this over-dependence on just a few sources creates many different risks, including an Enron-style collapse of a giant food company, catastrophic failure of key crops, and unrest in food supplying countries. They say that the recent trend towards a Single Source Food Supply is like putting all of our eggs in one basket, and that we need a national policy to encourage a move to a Multi-Source Food Supply.

While these candidate models did have many positive effects, they were ultimately not strong enough to recommend. Many subjects simply didn't grasp the argument that diversity is crucial to the stability and flexibility of complex, dynamic systems. Some people simply defaulted back to simpler understandings:

> *[The experts] think that we're relying on just a few resources, and that eventually they will run out.*
>
> Moderate woman from Rhode Island, age 40

Not only did people have difficulty grasping the details of the argument, the argument was handicapped by the fact that its central image of concentration was directly contradicted by people's everyday experience of food. Although people could understand the basic wisdom of not putting all of your eggs in one basket, the actual experience of shopping (in the metro areas where most Americans live) is largely about diversity. The abstractness of the food supply system for most people can't compete with this vivid experience.

> *I can totally understand where they are coming from. I read the news and I do see genetically modified crops and these gigantic companies that are participating in it, a couple names keep getting mentioned and I can see where they are coming from. But I personally do not notice a problem with diversity in the stuff that I'm eating.*
>
> Liberal man from Minnesota, age 26

> *I see a lot of food diversity in my grocery stores.*
>
> Conservative woman from California, age 19

As with the Food Supplier Network direction, people generally did not see this as a problem for themselves.

> *It's something I hadn't really thought about. I had certainly thought about the plight of farmers -- that farming was certainly not much of a way of life in California, except for vintners perhaps. But I guess if I really had thought it through I would have guessed that it had become more and more commercialized but not recognized it was really becoming such a potential problem . . . The food sources are getting farther and farther from the consumer, it sounds like.*
>
> Moderate woman from California, age 46

Even when people do get the argument about consolidation their imagined solutions tend to focus on "helping out the little guy." This is not a promising direction, since it collides with important cultural beliefs about competition, and about how and why corporations have won out over smaller operators.

Colossal Food Companies

We also tested a variant that focuses attention more specifically on the corporate dimension of consolidation. This stimulus introduces the vertical integration of food production and distribution.

> Food Supply experts are alarmed about the dangers of what they call Colossal Food Companies. A handful of huge food companies are now like giants walking among us, capable of creating huge problems even without meaning to. These colossal companies' operations include everything from labs that produce genetically modified seeds, to megafarms, to the international shipping of food from country to country, and even the local stores where we buy it. Experts worry that these colossal companies simply can't respond well to the food needs of particular people or neighborhoods, to the economic needs of states or countries, or to changing environmental conditions. Worse, they can't be effectively controlled by society or by competition. Experts urge that we need a plan to promote smaller, more manageable food operations.

People accepted the idea that these companies were too big and a little scary, but once again there were no obvious solutions for the spread of corporations

> *A: The colossal food companies are taking over the planet. They are distributing food that they have genetically altered from country to country. They are swamping the market with these foods. They don't meet the needs or the requirements of the people that live in the areas that they're servicing. They're in it for the profits.*

Q: And what do you think needs to be done about the problem?

A: People have to get back into the Mom and Pop situation. The little farmers that have been totally eaten up by the colossal food companies. And I don't know if that's possible. I don't know how it would be possible.

Liberal woman from Massachusetts, age 57

Again people who are on board with the anti-corporate message embraced it, while those who were not rejected this model.

The experts are scaring people about mega, colossal food companies that are probably genetically producing either specific foods or specific food items. I think the paragraph is trying to scare people. What I take from the paragraph, it's trying to make people aware that this is a bad thing. I don't know that it's a bad thing.

Conservative woman from Washington, age 37

4. Missing Food Policy

One very straightforward approach we tested during the research was to point out that Americans currently lack any coherent policy approach for managing the food system.

Energy Policy, Foreign Policy – Why no Food Policy?

The idea here was to call on people's understanding that food and the food supply are fundamental aspects of American life, and yet we don't seem to have policies for managing it.

Economists are calling for a national push to put into effect a National Food Supply Policy. We have a national energy policy and a foreign policy. But when it comes to one of the most important domains of life, food, we don't have any plan at all. We don't have a food supply policy for dealing with new biotechnologies, or the outsourcing of agriculture to foreign countries, or the changes that factory farming bring to the food supply. We need a policy with a vision of how to bring about the very best food supply that America can create.

(While this candidate model is misleading in the sense that the Farm Bill does establish a sort of Food Policy, it does not conflict in any way with the public's understandings, and was tested as a simple proxy for the idea that the food system needs greater national attention.)

Paragraphs of this type were not able to get around the fact that people interpret "policy" in very narrow ways. Despite the specific policies explicitly introduced in the stimulus,

subjects had a very strong tendency to think of policy in terms of national security, disaster relief and social welfare programs.

> *I would say a national food supply would [be] like the Mormon church. They always have food on hand for a month for emergencies.*
>
> Conservative man from Nevada, age 36

> *They haven't had one [food policy] so far and our food supply hasn't been compromised so why do we need one now? So I would think it would have something to do with terrorism.*
>
> Conservative woman from Wisconsin, age 45

Since people clearly associate policy with government, this direction also tended to bring up ambivalence about government solutions and interventions. Subjects were essentially unable to make sense of the idea that something like the food supply could be managed constructively through government policy.

> *I think Americans have their responsibility on their own to choose what they're eating and when the government tries to enforce a policy of what we're going to eat, that just kind of seems a little silly.*
>
> Conservative woman from Georgia, age 28

Ultimately, this direct approach proved a very weak way of convincing Americans of the need for policy. (Other directions were much more successful at this.)

There's been a paradigm shift – we need a new policy

To clarify *why* we need a food policy we tested paragraphs that framed the need for policy in a more causal, systemic way. One stimulus stressed the idea that there has been a paradigm shift in our food supply system and because of this we needed to take a big-picture view of what is going on and manage it more actively.

> Experts are concerned about what they call the Missing Food Supply Policy. A generation or two ago our Food Supply System was relatively simple and easy to keep track of. Today the system is huge, complicated, and not only outside of our view, but outside of our control. Because of these changes, the U.S. suddenly needs to focus on putting together a Food Supply Policy. This isn't just about farm subsidies and school lunches, but it's about managing the whole big picture so we are sure to the have the best and most secure food supply possible.

This paragraph may have helped some respondents to move beyond narrow default understandings of government programs. (Since the following subject is from Nebraska, it is also likely that he came into the conversation with a greater than average awareness of agricultural policy.)

> *Q: And what kind of policies do you think we should concentrate on to try to bring some kind of positive change?*
>
> *A: It would be nice if some of the money that is getting all lost in the corporate grocery chains and everything else was filtered back down to the rural areas that are actually growing all this grain, and that are all drying up.*
>
> Conservative man from Nebraska, age 30

Like the previous paragraph discussed, this one ran up against Americans' widespread hostility to government interventions:

> *A: Well it sounds like experts are concerned about whether or not the complex production of food is being managed properly.*
>
> *Q: And what kind of policies do you think they might mean?*
>
> *A: It sounds like a command economy, state control.*
>
> Conservative man from Indiana, age 50

5. Declining Food Quality: the Pink Tomato Effect

The intent of this direction was to capitalize on people's concern about the health and nutritional quality of the food supply (established as a key motivating theme in the focus groups).

> Experts have become alarmed about what they call the "Pink Tomato Effect." We are seeing more food that is cheap to grow and ship and which may look good on the shelves - but which is unhealthy and poor quality. Because most of the food supply is now in the hands of only a few big companies, competition has declined and consumers are actually finding fewer choices when they go to their supermarkets. Unless consumers and policy-makers start to call out for changes, the Pink Tomato Effect will continue to spread from the bland fruits and flavorless meats out to other basic foods as well.

Unfortunately, the explicit consumer focus of this direction reduced its effectiveness. While people were able to understand the general point, their thinking often remained trapped in counterproductive little-picture patterns. Furthermore, subjects didn't show a high degree of concern about the problem – the model was not particularly effective at getting past Americans' default complacency about food.

The pink tomato effect is caused by aggregation of suppliers in the food market and that results in people getting possibly sub-standard food and things are not as good as they could be and in order to improve the situation there needs to be better regulation to insure that the little guys get a chance.

Liberal man from Wisconsin, age 40

Q: What do you think we can do to make sure we have the best food supply for the country?

A: Inform people so they can make wise choices and if they don't like what's going on they can always take matters into our own hands as far as petition our legislators and just complaining.

Liberal woman from Tennessee, age 32

6. Hidden Costs: The Fake Price Syndrome

This direction was meant to convey the concept that many of our practices have "hidden costs" especially in the sense of degrading our other systems.

> Experts are worried about something they call the "Fake Price Syndrome." Americans think that their food is relatively cheap, but experts warn that those supermarket prices are fake, and the real price for some of that food is actually higher – when we factor in taxes spent on farm subsidies and highways for trucking food, social programs for farming communities that have lost their jobs oversees, and environmental damage from factory farms. Experts say that we need to be able to see past the Fake Prices and choose foods that won't leave us or our children with a huge bill to pay down the road.

Most TalkBack subjects either didn't understand the idea, or rejected it outright.

Q: Do you think we could do a better job of figuring out the true price for food?

A: I don't actually see how that's possible. If in fact what you're doing is going into a store and plunking down a dollar as charged, the hidden price or the fake price is so intangible that I don't know how you could possibly quantify that.

Conservative woman from Connecticut, age 56

I know when you go to the supermarket, there is nothing fake about the prices. They're high and there is nothing fake about it.

Conservative woman from Connecticut, age 58

Even a person who understands the concept doesn't believe that it has any validity except as a labeling device.

> *I think it would be interesting to show consumers what the true price is to our society. I think it could be calculated and shown to consumers. Obviously it wouldn't be able to be passed on to consumers. Or I shouldn't say obviously but I don't imagine that that would be too popular.*
>
> Moderate woman from Ohio, age 40

One significant problem with this and other "hidden cost" arguments is that they amount to telling people that their food is too cheap and ought to be more expensive at the checkout line. This is not an attractive message, for obvious reasons.

More elaborate approaches to hidden costs – like talking about deferred bills (pay now or pay later) or burden shifting (pay now or poor people and children will be forced to pay) are all weak when compared with people's fundamental preference for low prices. Not to say that hidden cost arguments can never work, but they represent a serious challenge and in the variants we tested, were not able to shift people away from Consumer Mode.

7. A Model for distribution: Food Circulation System

This direction specifically addressed circulation as a major aspect of the food system. The biological metaphor was intended to convey the sense of a critical set of structures and processes, indispensable to our survival.

> Experts are concerned about the state of our Food Circulation System. The Food Circulation System constantly moves food from producers to every part of the country. But as the Circulation System has grown more vast and complex it has become vulnerable to problems. It doesn't get enough quality foods to some places, while others end up with more than they need. The system is vulnerable to shocks from rising fuel costs, pesticide problems or changing global agriculture. Experts say that to ensure that Food Circulation doesn't break down, we need to figure out ways of managing the system as a whole.

The general sense of the metaphor was easily understood, and helped organize a discussion focusing on distribution. On the other hand, it did not succeed in conveying the idea that we need to focus greater attention on this system or make significant changes.

> *Q: What do you think experts mean by the food circulation system?*

A: Well I would think it means-- from the point of where the food is grown, to the places where its needed to the consumers.

Q: And what are some of things that might potentially go wrong or have gone wrong with our food supply?

A: I really can't think of anything.

Liberal woman from Missouri, age 31

RECOMMENDED MODEL

The search for a conceptual tool that can help people focus on the Big Picture of food systems ultimately led to a model with several key features:

- It provides an image of the *system itself* (as a whole – i.e. the "meta-system" that comprises all current methods of producing and distributing food).
- It conveys the *unacceptable problems* created by the system.
- It establishes that the system *needs to be managed*.

Each of these elements proved to be a critical aspect of the effective formula. Without all of them, it was easy for people to fall into (or remain trapped in) the counterproductive patterns discussed in the previous section. In a sense, the three elements of the model, taken together, produce the smallest viable unit of understanding on this issue.

- When not presented with an image of the system as a whole, subjects often defaulted to *narrow concerns about particular problems*, or to the default fixation on the *"little picture"* of individual experiences with food;
- When the model did not include a focus on unacceptable problems, subjects often demonstrated either *complacency* about the current situation (as though there were no problem), or *resignation* regarding the "inevitable costs" of modernization.
- When the model did not give a central place to the idea of control/management, subjects often defaulted to the sense that the food system is like the weather system – it has a life of its own and shouldn't or can't be managed.

The recommended model, however, succeeded in helping people focus on the Big Picture, acknowledge that there are real problems, and that these can and must be addressed.

Core Proposition of the Model

The proposition at the heart of the recommended model is the following:

> Our methods of producing food have become so powerful, and are so uncontrolled, that they are threatening the basic systems that are vital to our wellbeing.

This proposition has a number of important properties:

- It focuses on the system, rather than individual experience with food.

- It treats the food system, or at least the food *production* system, as a single, identifiable entity. (From a cognitive perspective, this helps makes the topic manageable and focused.)
- It is based on a concrete and easily grasped causal story: Powerful, uncontrolled process → risks/damage.
- It frames the lack of control (i.e. Responsible Management) as a central aspect of the problem.

Language and Imagery

Runaway

At the level of language and imagery, TalkBack testing established that the term "Runaway" is an effective way of conveying a system that is dangerously out of control (by unstated analogy with images like a *runaway train*, *runaway truck*).

The schematic metaphorical image suggested by the term "Runaway Food System" is of a massive and powerful object moving fast on an uncontrolled trajectory. Importantly, the term is not *too obviously metaphorical* to be accepted as a "natural language" expression. This is important because terms that are too obviously metaphorical can easily be dismissed as merely a creative way of expressing a point that can be made in a more basic way. In such cases the term quickly disappears from discussion and from people's minds. (We have had this experience in testing many candidate models, including the ones in this project.) *Runaway*, though, has staying power, presumably because it communicates clearly and strikes people as a natural way of expressing a particular image and set of points.

> *A runaway food system -- that's like something that's growing beyond control or there are certain things that are happening that could quickly get out of hand.*
>
> Liberal man from Alabama, age 25

In the following fourth generation rendition, much of the detail has been lost, but the term (partially distorted) and the ideas of a loss of control and a need for regulation have persisted.

> *It's called runaway food supply and it is due to lack of regulation . . . and we don't even know what is being released into the atmosphere and getting into our foods.*
>
> Liberal woman from New York, age 54

Damage to Foundations

TalkBack testing also established that an effective way to convey the idea of unacceptable harm is to talk about damage to "Foundations." This term has a number of key properties:

- It suggests a concrete image.
- It suggests that what is being harmed is a larger structure (rather than, for instance, a single community, a single type of food, a single species, etc. – which some people might be more concerned about than others).
- It suggests that any damage is very *important*, and cannot be ignored.

Once again, the term survives well overall, and has the right balance of metaphoric concreteness and acceptability as natural language. It does not sound fanciful, but does convey an image that helps people deal with what is otherwise a very abstract concept.

An example of language combining both the Runaway and Foundations concepts, that proved effective in testing, was the following:

> Experts are increasingly concerned about what they call our Runaway Food System. The way we produce food today has radically changed, and now has the power to alter the Foundations of life as we know it.

It is important to note that this text is not intended to be repeated verbatim – it is one (effective) example of how the ideas of the Runaway Food System and damage to Foundations can fit in a natural-sounding, user-friendly explanation of the situation.

Selection of Examples

Simplifying models often need to be explained through the use of clarifying examples. In the communications contexts that advocates find themselves in, the use of examples occurs naturally and automatically – the discussion is always about some issue or issues in particular. The context of TalkBack testing requires the researchers to choose examples based on several factors. For instance, examples should be:

- Clear and concrete enough to be quickly grasped
- Diverse enough to suggest the breadth of the issue
- Important enough to suggest the seriousness of the issue

It should be noted that the examples used in testing are not necessarily the examples that communicators will ultimately choose to focus on in explaining the issue to their

audiences. In fact, the examples were chosen more for their cognitive properties than for scientific accuracy.

That said, the following are several examples that proved effective in TalkBack testing – i.e. they were often remembered and focused on, and helped clarify the more general sense of the Runaway and Foundation ideas:

- Farming chemicals like pesticides and weed-killer are permanently altering our soil and water.
- Genetic engineering is changing the nature of the plants and animals we eat.
- Mile-long fishing nets are dragging the ocean floor and altering ecosystems.

Readers will note that these examples all refer to *natural systems*, as opposed to social and economic systems, for instance. This selection reflects the fact that TalkBack subjects consistently gravitated towards understandings that focused on natural systems, even when responding to paragraphs that referred to threats of other kinds. Other examples that were offered, but proved less effective, in the course of testing included the following:

> Public health is damaged by everything from chemicals in the food supply to the over-marketing of processed foods to kids.
>
> The economies of whole regions are altered through single business decisions.

While these examples are very relevant to many experts' concerns, and certainly fit the general story of a powerful system that is causing damage, empirical testing established that they are significantly harder for people to quickly grasp. (It should be remembered that simplifying models, by definition, are powerful but small conceptual units – if they cannot be conveyed very quickly then they are not achieving their purpose.)

> *We strongly recommend that future research efforts include a focus on conveying social and economic side effects of the current food system.*

It is very important to note that despite the particular examples that worked best in testing, the message *was not interpreted as something an environmentalist would say.* Instead it was interpreted as a message about practical problems that should concern everyone (see quotes later in the section).

Example paragraph

The following paragraph illustrates the use of the explanatory model, and was successful in testing:

Experts are increasingly concerned about what they call our Runaway Food System. The way we produce food today has radically changed, and now has the power to alter the foundations of life as we know it almost by accident. Farming chemicals like pesticides and weed-killer are permanently altering our soil and water. Genetic engineering is changing the nature of the plants and animals we eat. And mile-long fishing nets are dragging the ocean floor and altering ecosystems. America needs to retake control of this runaway food system before it does more damage to the foundations we depend on.

This paragraph should only be taken as an illustration of use of the model, and we do not anticipate that communicators will ever repeat it in its entirety. This text is designed not only to convey the essential idea of the model in a clear and memorable way, but also to deal with the unusual context of TalkBack testing. TalkBack participants are deliberately presented with a paragraph with no discussion beforehand, in order to determine the effectiveness of a single idea. In any "real" situation, communicators will have the opportunity to add context, choose their own examples, and express the model in words that suit their own context and preferred style.

That said, it is worth reviewing the paragraph in order to clarify what each part is adding to the message.

Experts are increasingly concerned about what they call our Runaway Food System.	Experts' concern signals the reality of the problem Vagueness about experts avoids narrow associations with environmentalism, social workers, etc. New term, introduced at top of communication, signals this is a new concept to pay attention to
The way we produce food today has radically changed, and now has the power to alter the foundations of life as we know it almost by accident.	Introduces the idea of a break with past methods – this is a new situation (adds to urgency) Introduces idea of the *powerful* system Introduces the concrete *foundations* image "Almost by accident" reinforces the idea that this isn't about malice but about lack of management
Farming chemicals like pesticides and weed-killer are permanently altering our soil and water. Genetic	Examples chosen for breadth, clarity, seriousness

engineering is changing the nature of the plants and animals we eat. And mile-long fishing nets are dragging the ocean floor and altering ecosystems.	
America needs to retake control of this Runaway Food System before it does more damage to the Foundations we depend on.	Reinforces need for management Reinforces key terms

TalkBack testing confirmed that the message as a whole has a number of the hoped-for effects, which we discuss below.

Impacts of the Model

Focus on the Big Picture

Most subjects were able to stay focused on the Big Picture – that is, to focus on the system as a whole – when presented with the Runaway/Foundations model. As discussion in previous sections has made clear, this is no small achievement, given the strong tendencies to resist or ignore the Big Picture on this issue – i.e. to think only as a consumer, or to focus concern on one narrow aspect of the problem (only to slip back into little picture thinking later).

A: You're talking the environment and the economy and just the whole process, the farming, the fishing and the big companies [that] have kind of been destroying the environment, the fishing -- they use the big nets that wipe out the ecosystems underwater. The big companies, they have the one idea and that could set off a chain reaction from other businesses.

Q: What do you think is one thing that could be done about all of this?

A: Full disclosure and better regulation.

Conservative man from Georgia, age 34

Awareness of Food Production Mechanisms

One of the most general problems in the public's default thinking is that people tend not to be aware of the processes that produce food – the trajectory that leads from seeds to breakfast cereal on the table, for instance. The general idea of Food Production Mechanisms is not one that people easily focus on, but the model succeeded in getting people to think about these mechanisms, and to tie them into a broader picture.

> *Because of the way food is actually being grown and harvested, including within the ocean -- 40-foot nets and the genetics they're applying and the pesticides. [These] are not healthful ways of farming and harvesting; we are producing a situation where we're not producing stability in foodstuffs. We're actually creating a problem.*
>
> Conservative woman from North Carolina, age 55

Loss of control

One of the central points of the Runaway model is that our current system is out of control. This message came through clearly to TalkBack subjects, and was a cause for concern. The following exchange from TalkBack chains shows how this can work in conversational settings:

> *A1:Experts are concerned [about] something called the runaway food system. It's a way that we produce food . . .*
>
> *A2: It's gotten away from us.*
>
> *A1: Yeah, run away from us. The way we might produce food. It said that no one is accountable for it. But they warn if we don't act quickly before it's too late . . .*
>
> *A2: Something radical needs to be done.*
>
> Two conservative women from New York and Tennessee, ages 28 and 38

Management stance

The model was able to get people to talk about a system that can and must be brought under control. This is an important step forward from the default perspective, where management of the food system is practically a non sequitur.

> *The best way to do it, I feel, is to try to get the government involved, get science involved, and try to put back what we're taking away and give back to the ocean, give back to the earth, etc. etc.*
>
> Conservative man from Connecticut, age 25

Note that, for obvious reasons, it is most compelling to hear this kind of argument from a self-described conservative, who might be expected to reject government "interference" in the food industry.

Awareness that things have changed

Lay people gravitate towards two patterns of thinking about changes that have occurred in the food system: Most commonly, they don't question how the food system has

reached its current state, or think about the fact that it has changed at all (in keeping with the general American tendency not to think about history). When pressed to think directly about the system, on the other hand, members of the public often exaggerate the idea that agriculture, for instance, is "nothing like it used to be."

The model allows people to adopt a more realistic and specific perspective, in which particular aspects of the transformation are subject to our control, and may even be reversible.

> *Food production is growing in scale; rather than 100 farmers each producing 10 tons of food, we have 1 farmer producing 1,000 tons of food. With the ruthless efficiency of consolidation, it opens the door to greater environmental damages. That's runaway, do you think?*
>
> Liberal man from New York, age 22

A serious, urgent problem

The complacency that is such a strong trend in average Americans' thinking about the food system is one of the most powerful forces working against engagement. Put briefly, both the focus groups and elicitations established that people often feel that the current situation is fine, that there is nothing to be concerned about.

On the other hand, there are also times when people feel strong anxiety about particular foods – e.g. regarding pesticides in particular kinds of produce, or levels of mercury in tuna. As we have discussed in previous rounds of research, however, these "food scares" ultimately do not serve to shift people to a big-picture perspective. (They certainly haven't done so yet.) Instead they allow people to return in relief to their default state of trust and satisfaction regarding the food supply as soon as there is good news (or no news) about the issue.

The Runaway-Foundations model is able to shift people to a perspective where they feel neither complacency nor panic, but a broader and more appropriate type of concern about our current approach. At the very least, the fact that they are concerned about the system as a whole means that good news about healthier apples in the stores can't discredit the whole story.

> *A: The experts are concerned that what we're doing to alter the growth of food and the production of food and then also the sale of food is altering in a bad way the environment -- meaning the farms, the crops, the oceans, and the whole system. And it is also affecting the way we market -- like this big corporation taking over, putting other people out of business and that's bad for the economy.*
>
> *Q: And why do you think experts use the term Runaway Food System?*

A: Probably because there have not been enough controls put on what they're doing to get the food . . . altering. They're doing stuff and they're getting away with it to the point that it's scary.

Conservative woman from Rhode Island, age 63

Note that the idea of damage to Foundations plays an important role in creating this sense of genuine, wide-ranging concern. In assessing the capacity of the Runaway story by itself to shift people in productive directions, we found that the model was not as effective at engaging people or eliciting discussion as a story that included reference to Foundations that are being damaged .

Broad Compatibility

An important asset of the model is that it is compatible with a wide range of perspectives on the food system, and points that advocates and other communicators may wish to make on the topic.

Health/Nutrition

Focus group research conducted by Public Knowledge for the FrameWorks Institute established that one very effective starting point for getting people engaged on the issue is by focusing on the nutritional quality of food, and health problems posed by the use of chemicals, for instance.

While the Runaway/Foundations model does not explicitly focus on health, TalkBack testing established that the model is understood in a way that is very compatible and even overlapping with this aspect of the issue. Essentially, threats to the Foundations (of natural systems) referred to in the model are implicit threats to health as well.

A: Nowadays, we are using a lot of technology interventions to produce food, and some of these methods include using chemicals to increase the growth of food. Even though these methods are providing us with more food, but they are hurting our nature.

Q: Does this problem affect mostly the food supply -- or other aspects of life as well?

A: No, they are also hurting the other aspects of life as well because food supply and the origin of food can affect life. "We are what we eat". I suspect that these chemicals can play a role in causing cancers and other diseases.

Moderate woman from New York, age 22

One of the benefits of the model is that *when it is used as a starting point,* it shows some ability to link health concerns with the Big Picture concerns that are most important to advocates.

A: [The Runaway Food System] has the potential to affect other aspects of life as well. Definitely our health.

Q: What is one thing that could be done about all of this?

A: Governmental regulation on new technologies might help. Just some way of controlling what's going on would help.

Liberal man from California, age 44

On the other hand, TalkBack results suggest that *it is not as effective to put health consequences at the center of the model*. Several variants of the model explicitly treated health as a central concern – e.g.:

> Doctors are more and more concerned about what they call our Runaway Food System, because they say it is altering the foundations that our health depends on. We're now using much more powerful tools than ever to produce food – from intensive pesticide use, to genetic engineering, to a shift away from fresh foods and towards more and more processing. This out-of-control system is altering the foundations that health depends on, from soil and water, to the nutritional content of the food we eat, to the genetic make-up of plants and animals. These critical foundations of health will get less and less stable until we get the Runaway Food System under control.

Responses to paragraphs like these were sometimes promising (i.e. similar to the conversations referred to above), but more typically devolved into counterproductive, "little picture" discussions. It seemed that the direct discussion of health invited subjects to think from the individual, consumer perspective.

Q: What do you think doctors mean by "runaway food system" here?

A: I guess the over usage or abuse of chemicals and unnatural processes in the way food is manufactured and dealt with now.

Q: What are some of the trends that are going in the wrong direction that are contributing to this?

A: Well I would guess the need to make food easier to prepare. We tend to like microwaving or fast, instant-access type foods. People's desire to save a minute or two instead of using more conventional ways of preparing food. And the way that it is stored and treated.

Liberal Man from California, age 35

Q: What do you think experts mean by "the foundations that our health relies on?"

A: Well, I would say that you're supposed to eat a certain quality of food, and by eating frozen food, fast food, all the time because of how fast the rhythm of your life is nowadays, you're just trying to eat whatever, without really considering if you're eating something good or not. Whether it has the right amount of vitamins or minerals and stuff that will really feed you. Only what you're trying to do is get over one of your meals that day and move to the next.

Q: What do experts mean by runaway food system?

A: Uh, Runaway system? I think it's just the same thing. That your trying to eat on the run all the time. As quickly as possible without really caring what kind of food you're eating. Your time is always farther on. In the morning you have to go to your office. After leaving the kids at school. Picking up the kids at school after you leave your office. Shopping for your kids, shopping for your house. All kinds of stuff that doesn't allow you to really take care of what should be the most important thing which is how your family is eating – the quality of the food your family is eating.

Liberal Man from Texas, age 28

Q: So, what's one thing we can do about this problem?

A: We could eat more fresh foods, and I think that people should eat more fresh foods from their own gardens. People should garden a bit more. And stop eating foods that are processed with pesticides and eat more natural, organic foods.

Conservative woman from Massachusetts, age 40

Compatibility with anti-corporate point – idea that the system has been hijacked

For some advocates, one of the central points it is important to convey is the harms caused by certain unscrupulous corporations with too much power over how food is produced and distributed. Interestingly, the message that the food system is dangerously out of control is effective with people who feel the system is currently *too* controlled by certain interests.

Q: What do experts mean when they use the term "runaway food system"?

A: Well I haven't heard that term before today. But it sounds like they're talking about the whole agribusiness thing of giant corporations running the whole production of food and what not.

Liberal man from Georgia, age 42

The key point is that the system is not being overseen and managed *by American society as a whole*. (Note that while the topic is clearly international in nature, we did not try to

be explicit about this point, which would certainly have added an additional challenge in the American cultural context.)

Compatibility with aspects of the system other than production

Another point certainly of interest to advocates is that the Runaway/Foundation model is, in principle, easily adapted for discussions of distribution as well as production. For instance, intercontinental shipping of food creates environmental harms, as do current packaging methods; and the (uncontrolled) power of the food industry to determine what foods are available in what communities creates threats to the social, economic and health foundations of particular places. While it proved difficult to tie these points together in the special context of TalkBack testing – where the goal is to find a very brief explanation that achieves focused effects – we are confident that communicators can find ways of adapting the model to a wider range of issues than those that appear in our test language. As long as these issues fit the idea of uncontrolled power that threatens systems and structures we depend on, the model should be an effective tool that helps make the point more clear and compelling.

About the Author

Cultural Logic, directed by anthropologist Axel Aubrun and linguist Joseph Grady, is an applied cognitive and social science research group that helps organizations frame their messages for maximum effect. Working with a network of experts and partner organizations including the FrameWorks Institute, Cultural Logic focuses on research relating to public interest issues. Topics have included global warming, violence reduction in communities, conserving the Chesapeake Bay, global interdependence, gender equity in schools, and toxins in the domestic environment. Axel Aubrun, Ph.D. is a psychological anthropologist whose research and publications take an interdisciplinary approach to problems of communication and motivation. Joseph Grady, Ph.D. is a linguist whose research and publications focus on the relationship between metaphor and other aspects of thought and communication.