



Values, public policy, and community food security

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Accepted in revised form April 3, 1999

Abstract. Values and beliefs regarding community food security were investigated among participants in 2–3 day participatory planning events related to the local food system in six rural counties from one region of upstate New York. The results of Q methodology reveal three distinct viewpoints: a) the Social Justice viewpoint, which is primarily concerned with hunger and the potential harm caused by welfare reform; b) the Pragmatist viewpoint, which values the contributions agriculture makes to local communities and is not concerned about environmental or social externalities of the dominant food system; and c) the Visionary viewpoint, which also values agriculture in the community but is very concerned about environmental and social externalities. After the planning events, the Pragmatist viewpoint experienced an 88% increase in members and the other two viewpoints became less salient. Various categories of professionals (e.g., nutrition, social welfare, agriculture, environmental) tend to express the viewpoints associated with their professions and/or the client groups they serve. Despite these differences among participants, the planning events in all six counties resulted in a wide range of goals and objectives centered on a theme of re-localizing a variety of food system activities. These results are discussed in relation to the desirability of developing an explicit philosophy of food and agriculture and the ideal processes required to do so.

Key words: Community food security, Democracy, Food system, Public policy, Q methodology, Values

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Introduction

In a recent editorial, Haynes (1997) reflected on his long-standing desire for the *Agriculture and Human Values* journal and for the Agriculture, Food, and Human Values Society to promote a more effective dialogue across the scientific disciplines about the value issues related to food and agriculture.

In our annual society meetings, in spite of our commitment to raising and addressing value issues, there is not nearly enough discussion either about the values we, as discussants hold, nor about how to critically appraise our values and work toward the development of a system of values that can be shared by a larger community. (p. 3)

He further paraphrased Kate Clancy's 1996 presidential address to the society in which she made a plea for developing a philosophy of agriculture that integrates the disparate activities [in our food system] that fragment our larger society into interest groups. She elaborates that the development of such a philosophy would be worthwhile because it would make us more aware of our own ideas and actions and the philosophy itself could be invaluable in our dialogue with people and communities (Clancy, 1997).

This paper endorses the spirit of these remarks, raises the question of whose values should count in a philosophy of food and agriculture, and suggests that such a project should give at least equal attention to the process as to the product. It does so by outlining the major differences between the technocratic and

social interaction approaches to public policy formation, thereby highlighting the fundamental importance of process, and then describes the results of a study in New York's North Country that help define some core "food system values" from a grassroots perspective in one rural region.

Approaches and values in public policy formation

One of the enduring tensions in Western democracies and their underlying political philosophies concerns the relationship between technocratic analysis and social interaction in the formation of public policy. Each of these approaches has a variety of intellectual traditions that tend to divide and/or congregate within academic disciplines and sub-disciplines as well as practitioner communities. Technocratic analysis is typically associated with scientific knowledge, quantitative methods, expert-based logic, utilitarianism, reductionism, technological optimism, elitism and enlightenment (Bobrow and Dryzek, 1987; Fischer, 1990; Smith, 1991; Zey, 1992; Forester, 1993; Ellis, 1998). By contrast, social interaction approaches are typically associated with politics, humanism, certain branches of social sciences, appreciation of the role of lay and other non-scientific knowledge, judgment and intuition, holistic or comprehensive thinking, and explicit attention to values and social deliberation in policy formation (Lindblom, 1980; Forester and Fischer, 1993; Majone, 1989; Vickers, 1995; Hammond, 1996; deLeon, 1997).

Although this description of these two broad approaches to policy development has heuristic value, it is important to note that the boundaries between them are not so clearly demarcated. For instance, some of the criticisms leveled at the technocratic approach are its anti-democratic and elitist character, its failure to satisfactorily embrace values and distributional consequences, and the systematic tendency to overlook the inadequacy of the knowledge base it employs. However, the criticisms leveled at our dominant social interaction approach (i.e., our current political system) are similar: increasingly it is influenced by powerful (economically elite) interest groups and in many policy domains it is unresponsive to broader public values (Etzioni, 1993; Thomas, 1995; Boyte and Kari, 1996; King and Stivers, 1998), both of which have been facilitated by the disengagement and alienation of the public from political life (Kweit and Kweit, 1981; Box, 1998; Steuerle et al., 1998). A further example of the fuzzy boundary between the two approaches is that technocratic knowledge is being employed by non-elites, in an increasingly effective way, in their efforts to re-shape

public policy to conform to their values, as seen most clearly in the environmental movement (NRC, 1996).

Although the roots of the tension between elite and popular democracy extend back to the early Greek philosophers and underlie the Jefferson-Madison debates, this tension has intensified in recent decades in response to the explosive growth in science, technology, and technocracy in society, and in government institutions and the policy analysis industry. This intensification is evident in the academic literature cited above, and it is apparent in the resurgent interest in democratic governance and participatory approaches even in domains with high technical content (NRC, 1996; Renn et al., 1995). Of particular interest to the present paper is the appearance of incipient social movements related to social and environmental justice (Gottlieb and Fischer, 1996), agricultural sustainability and re-localization of many food system activities (Feenstra, 1997; Fisher, 1997; Welsh, 1997), community-based economic development (Campbell, 1997; Shuman, 1998) and civic renewal (Etzioni, 1993; Box, 1998). As noted by Gottlieb and Fisher (1996: 23) in discussing the environmental justice and community food security movements, these movements "share a concern for issues of daily life and the need to establish community empowerment strategies." The academic discourse and activity in this area is gradually moving from criticism of technocratic approaches to the promotion of and social experimentation with a variety of models that integrate or improve upon elements from the two approaches.

One of the pivotal issues embedded in this tension between technocracy and social interaction approaches to policy formation is the way in which diverse values are addressed and affected by the process. As noted above, the technocratic approach has been criticized for neglecting this dimension in the course of attempting to maximize net social benefits (in the case of welfare economics) or minimize aggregate health and environmental risks (in the case of risk assessment). Systematic value preferences can arise from these procedures largely because the problems are framed, analyzed, and interpreted by elites whose values, interests, and world views can differ markedly from those of the other affected stakeholders, often favoring the status quo and established interest groups.¹ By contrast, an idealized social interaction approach would ensure broad access to the process, actively pursue diversity of perspective, and foster deliberation on the value dimensions underlying alternative problem framings and policy options. Within a federal democratic system, such an approach would also respect the possibility of state and local variation

in values when the nature of the issue is conducive to being addressed in such a fashion.

It is relevant to note that systematic differences in beliefs and interests also can exist between the representatives of organized interest groups and those they claim to represent. This is especially the case when the group is internally heterogeneous; when there are inherent conflicts within the policy subsystem; when leaders have higher levels of commitment, policy engagement, and ideological coherence than the members; and when the group does not have strong mechanisms for ensuring accountability to the membership (Esman and Uphoff, 1984; Sabatier and McLaughlin, 1990). This observation suggests that the social interaction approach may suffer from some of the same procedural defects as the technocratic approach when it comes to the question of representing values (Hoffman, 1989; Roberts and King, 1996; McKnight, 1995).

These considerations have direct relevance to values-based policy development related to food, agriculture, and rural development. For instance, several authors have noted that rural development policy in the US, and the public support for it, has often been based on inaccurate images of the problems, concerns, and values in contemporary rural areas and rural life, and it is sometimes heavily influenced by the concerns of urban dwellers or narrow interest groups and often detrimental to the broader interests of rural areas (Logan, 1996; Howarth, 1996). In part, this phenomenon may simply reflect the outcome of interest group politics and the strategic framing of problems and solutions, as seen most clearly in the deliberate confusion of farm policy with agricultural or rural development policy (Browne et al., 1992). However, the danger exists that even well-intentioned proponents of a given philosophy of food and agriculture may misinterpret or misrepresent the food system values and concerns of rural (or urban) residents, depending upon the way in which that philosophy is developed. Ironically, in political terms, this could have the effect of simply displacing one set of elitist value preferences (those held by the much-maligned technocrats) with another set of value preferences (those held by the elite developers of an alternative philosophy).

In broad terms, there are two approaches for attempting to address this issue: conducting research designed to uncover the values among the group in question (and then seeking to incorporate these into policy design), and employing methods of policy design that allow for the direct participation of the affected parties. These two approaches are decidedly not equivalent, but differ on the fundamental epistemological, political, and pragmatic grounds as discussed

above. This paper is based on an action research project conducted in New York's North Country that employed both approaches. The results of the direct participation approach are described in a companion paper (Pelletier et al., 1999a). The remainder of this paper examines the results from a research-based approach. Specifically, this paper describes three distinct viewpoints that residents have concerning the food system, examines the degree to which these vary across different categories of food system stakeholders, and examines the changes in viewpoints after residents engaged in a two-and-a-half day participatory planning process focused on their local food system.

Project background and research methods

A. Project setting

The North Country of New York includes the six counties that surround or are part of the Adirondack Park on the western, northern and eastern sides. The region contains 419,000 people, of which 34% are located in urban areas and 2.4% are farm households. It has an unemployment rate roughly twice that of the state average and a per capita income 61% of the state average. The major sources of employment are services (23.5%), wholesale and retail trade (21.5%), and government (21%). The region continues to undergo a marked re-structuring of the dairy sector, having experienced a 65% loss in the number of dairy farms and a doubling in the number of cows per farm between 1964 and 1992 (USDA Census of Agriculture, 1964, 1992). Dairy farms represented 41% of all farms in 1994 and dairy products accounted for 78% of all agricultural commodity sales (SUNY Potsdam, 1996).

B. Search conferences

The choice of the search conference as the learning and planning model for this project was guided by theoretical considerations grounded in the policy sciences and community development literature, as described more fully elsewhere (Pelletier et al., 1999a). Briefly, this theoretical model maintains that the evolution of an issue in a policy or community setting is, in a proximate sense, a function of the participation, power relations, and nature and quality of discourse. These factors, in turn, influence and are influenced by issue salience, which is also a function of the variation and distribution in values, beliefs, and perceived interests associated with the issue. Another potentially significant factor is the fragmented nature of knowledge and understandings concerning the issue, with the fragmentation being created by diversity

in organizational and professional affiliation, bureaucratic and academic structures, and life experiences. All of these factors are mediated by the formal and non-formal institutional forms and structures within which decision processes occur.

In the context of this model, search conferences represent an alternative institutional form for decision-making processes, and they were used in the North Country project because they have several desirable features: a) an emphasis on legitimizing and integrating specialized local knowledge of the issue domain from diverse local stakeholders; b) an ability to foster the creation of a vision, goals, and action agendas based heavily on stakeholder values and interests, as opposed to more cognitively oriented approaches to strategic planning; c) a focus on helping participants to identify common ground among their respective interests and values; and d) the emphasis it places on participatory methods, group ownership of the results, and democratic participation. These characteristics are particularly useful when addressing ill-structured problems and broad problem domains that impinge upon life experiences (Dunn, 1994; Hammond, 1996; Chambers, 1997) and when the goal is to foster activation and involvement of the participants in further action planning and implementation after the initial visioning and planning event (Walzer, 1996; Hamilton, 1992; Staples, 1997).² Participants expressed a high level of satisfaction with the model, with 90% stating they would encourage a friend to participate in one and 96% stating they would like to attend a reunion with other participants at some later time (Pelletier et al., 1999a).

Separate search conferences were held in each of the six counties from October, 1997 through March, 1998. Participants were chosen by a county advisory group established for this purpose and intentionally included consumers, farmers, processors, distributors, retailers, community educators (in nutrition, agriculture, environment, and others), social welfare staff and managers, planners, and clergy. The numbers and proportions of each of these participant categories varied across the six counties but each county conference included a diverse group of participants.

C. *Q methodology*

Values and beliefs regarding community food security were assessed through Q methodology (Brown, 1980), which is an approach for identifying the distinctive orientations or viewpoints concerning an issue or broad problem domain.³ Q methodology requires that participants sort a set of statements about a given domain (in this case, the food system) according to their degree of agreement/disagreement, these

responses are factor analyzed, and the major viewpoints are inferred through qualitative analysis of the factor analytic results. In this study, a sample of 48 statements was selected from a larger set of 150 statements taken from interviews and discussions with members of the county advisory groups as well as magazines, newsletters, internet discussions, and books and articles about community food security (CFS). The final 48 statements were chosen based on the results of pilot-testing with stakeholders in the North Country and on the desire to include statements related to four key dimensions of CFS as discussed in the literature: social justice, environmental sustainability, economic viability, and healthfulness of the food supply. The final sample of statements also included statements related to group and community decision-making processes, participation, and power, because of some theoretical interest in the relationships between the structure/function of food systems and social capital. The 48 statements are included as an appendix.

In contrast to R factor analysis, which is based on a data matrix of people (rows) and variables (columns), Q methodology is based on a data matrix of statements (rows) and people (columns). This data matrix generates a correlation matrix in which the correlations in each cell measure the degree of similarity with which any two individuals sorted the 48 statements (with coefficients ranging from -1 to $+1$). Thus, when this matrix is subjected to factor analysis, the resulting factors refer to *groups of people* that sorted the statements in a similar way (as opposed to the factors emerging from R factor analysis, which refer to latent variables associated with each of the measured variables). The interpretation (or viewpoint) associated with each factor is determined by: 1) calculating the average score people in the factor gave to each of the 48 statements (ranging from -3 for strongly disagree to $+3$ for strongly agree); 2) converting each person's score for each statement to a Z-score in order to standardize the distribution across all 48 statements; 3) arranging the statements from those with the highest degree of agreement (positive Z-scores) to greatest disagreement (negative Z-scores); and 4) conducting a qualitative analysis of those statements with the highest degree of agreement or disagreement. In the present study, the analysis was performed on the top ten agree, top ten disagree and the most distinguishing statements associated with each factor. This means that a total of 25–30 statements (or roughly half the total) made up the “narrative” for each factor, from which dominant and interrelated themes were identified by qualitative analysis. Further technical details concerning the techniques employed in this study are described elsewhere (Kraak et al., 1998).

Q-sorts were administered to a total of 171 search conference participants several weeks prior to the search conferences, of whom 141 also completed a Q-sort several weeks after the search conferences. The analyses in this paper are based on this sample of 141 individuals with a pre- and a post-conference Q-sort. Respondents were asked to sort statements into seven agree-disagree categories. Data were analyzed using the centroid method and varimax rotation with the Q software (PQMethod, version 2.0). Preliminary analysis involved solutions ranging from two factors to six factors and clearly revealed the presence of either three or four factors. Careful analysis was given to these two solutions, with the three-factor solution being adopted on the basis of distinctiveness and coherence of the views expressed by each factor as described in detail elsewhere (Kraak et al., 1998).⁴ This process was conducted separately for the pre- and post-conference results, which revealed remarkable stability in the viewpoints themselves but significant changes in the degree to which individuals identified with each viewpoint (Pelletier et al., 1999b).⁵ The present paper examines the distribution of these changes across counties and various categories of stakeholders, building upon the earlier finding that significant changes did occur for the sample as a whole (ibid). The degree of identification with each viewpoint, or salience of each viewpoint, among the various categories of stakeholders is based on the mean factor loadings for each of the three factors as in Brown (1980) and the degree of change in salience is based on the mean individual change statistic (Z) as in Brown (1992). The significance of differences in means across stakeholder categories is assessed by one-way analysis of variance using Proc GLM in SAS and significance of the pre- and post-conference change within a stakeholder group is assessed by testing whether the 95% confidence interval for the mean Z statistic excludes zero.

Results

A. Factor descriptions

This section contains the narrative description of the viewpoint associated with each factor, as derived from the qualitative analysis. Numbers in parentheses refer to the statements in the concourse (see Appendix), followed by the rounded factor scores (for factors A, B, C in that order). The signs preceding each factor score indicate agreement (+) or disagreement (-). As described in detail elsewhere (Pelletier et al., 1999b), these viewpoints remain virtually unchanged after the search conferences, although the salience (mean load-

ings) and individual adherence to each viewpoint did change.

Factor A (pre-conference): The social justice advocates⁶

People in this group are very conscious about hunger issues (5; +3, -1, -1 and 27; +3, +1, 0), sympathetic to the concerns of the working poor (23; +2, +1, 0), and disagree with hard-line strategies that blame people who experience hunger (21; -3, -1, -1). These sentiments are illustrated by statements 5 and 27:

5. The right to be free from hunger ought to be equally important under the law as all civil, social and political rights such as the right to vote and the right to religious freedom. (+3, -1, -1)
27. There are people who are hungry out there. Maybe they don't look like they're starving because they're not skinny and scrawny or maybe a family is just having a hard time. I think we need to increase everyone's awareness of hunger in our community. (+3, +1, 0)

People associated with this factor feel the Welfare Reform Law is not a positive change because they disagree with the statement that many low-income people do not take personal responsibility to feed their families (15; -2, 0, -1). Factor A members agree that societal change has affected agriculture in many ways (6; +2, +2, +3) and recognize the important contribution that farmers make to the local economy and community (11; +2, +3, +3). They disagree with the perception that farmers use more energy transporting produce to local markets than huge diesel semis that haul large quantities of food across the country (47; -2, -1, -3). They also agree that decisions related to how they purchase, consume, and dispose of food influence the environment (2; +2, +2, +2).

This group appears to emphasize a variety of strategies to promote CFS including: increasing community awareness about hunger (27; +3, +1, 0), people working together (4; +3, +2, +2), relying on a group of people who do not think alike (42; -2, -3, -2), community empowerment (46; +2, +1, +1), and teaching children basic cooking skills and educating them about the food system (20; +3, +3, +2). People loading on this factor agree that power can be used in two different ways - to empower a community (46; +2, +1, +1) or to control what issues get discussed (36; +2, +1, 0). Additionally, they disagree with the statements that economic growth will eliminate poverty and provide food security (28; -3, -3, -3), private charity should be the first line of defense against hunger and food insecurity (31; -3, -2, -2), and telling a hungry person to go find a job (21; -3, -1, -1). Their

disagreement with letting the marketplace handle itself (24; -2, -1, -1) indicates that they support some form of government intervention to provide money for food production.

Factor A members are not entirely satisfied with the food system. They disagree that it is unrealistic to create a food system with the four main features of CFS (19; -3, -2, -3), but do not feel that the food system will be able to meet the needs of the present generation without hurting those of future generations (29; -2, 0, -2). They also appear to be dissatisfied with the amount of influence they have over decisions that affect their community's food security (32; -2, -1, -1).

Factor B (pre-search conference): The pragmatists

People belonging to this group have a strong agricultural consciousness reflected by their agreement that farmers contribute to the local economy and community (11; +2, +3, +3) and that societal change has affected agriculture in many ways (6; +2, +2, +3). Although these sentiments also are held by people associated with Factors A and C, the Pragmatists are unique in their satisfaction with the current food system as is illustrated by the following statements:

17. I think the United States has the most abundant, efficient, and inexpensive food supply in the world (-1, +3, -1).

44. Americans will find themselves in trouble down the road because of all the food they import – similar to the oil embargo of the 1970s – we will be held hostage by other countries that produce our food (-1, -3, -1).

Additionally, they disagree that the food system produces an abundance of cheap food at the expense of natural resources, farmers, and communities (34; 0, -3, -2) even though they agree that decisions related to how they purchase, consume, and dispose of food influence the environment (2; +2, +2, +2). People loading on this factor disagree that dairy farmers in the North Country have been discouraged from going into vegetable or crop farming by lending institutions (9; -1, -2, 0), perhaps because of reasons that are specific to the region such as a short growing season which may not make crop farming practical or profitable. Similar to Factor A members, they disagree that it is not realistic to create a food system with the four main features of CFS (19; -3, -2, -3).

Factor B members are not sympathetic toward welfare recipients whom they feel have become dependent on government handouts, as seen in their response to the following statement:

10. Welfare has become a way of life for some people, and giving them free food makes them dependent instead of self-sufficient. I don't believe people should go hungry but the government has encouraged some of them to just stand there with their hands out, and that's not right (-1, +3, 0).

People associated with this factor disagree that federal changes in welfare reform will make it harder for low-income people to afford high quality and healthy food (43; 0, -2, -2), which could be explained either by their lack of sympathy to the concerns of low-income consumers or their confidence in the ability of current programs and services to meet their needs.

The type of strategies they support for promoting CFS include: teaching children basic cooking skills and educating them about the food system (20; +3, +3, +2), eating locally grown and seasonally available products (12; 0, +2, +3), thoughtfully controlling how they use their food buying power (38; 0, +2, +1), people working together (4; +3, +2, +2), and relying on a group of people who do not think alike (42; -2, -3, -2). They feel that many people lack the knowledge and skills to make nutritious food choices (1; +1, +2, +1). Similar to Factor A members, those associated with Factor B disagree that economic growth, like the US is currently experiencing, will eliminate poverty and provide food security to its citizens (28; -3, -3, -3). They also disagree that if the government would create new jobs, it would improve people's purchasing power so that they can buy their own food (48; -1, -2, -3), and do not agree that private charity should be the first line of defense against hunger and food insecurity (31; -3, -2, -2).

Factor C (pre-search conference): The visionaries

People associated with this factor have a strong agricultural consciousness that is similar to those in Factor B. However, their world view is distinct because they have a pronounced environmental consciousness as well. They recognize that societal change has affected agriculture in many ways (6; +2, +2, +3) and express an appreciation for farmers' contributions to the local economy and community (11; +2, +3, +3 and 18; +1, +1, +2). They are very dissatisfied with the food system and acknowledge many problems with it, as seen in their strong agreement with these statements:

25. Most people have no idea whose soils produce their food and forget there is a connection between food and the land (0, 0, +3).

14. Our present food system has fundamental problems. Family farms and rural communities are declining and urban residents are not involved in or aware of how their food is produced (+1, 0, +2).

34. The food system in the United States produces a large amount of food but it is at the loss or damage to our soils, waters, farmers and communities (0, -3, +2).

In spite of these sentiments, they disagree (as do Factor A members) that it is not realistic to create a food system with the features of CFS (19; -3, -2, -3), and also like Factor A loaders, they do not feel that the food system will be able to meet the needs of the present generation without hurting those of future generations (29; -2, 0, -2).

Factor C members strongly disagree with the perception that farmers use more energy transporting produce to local markets than huge diesel semis that haul large quantities of food across the country (47; -2, -1, -3). They also agree that decisions related to how they purchase, consume, and dispose of food influence the environment (2; +2, +2, +2); and eating locally grown and seasonally available products is one strategy they endorse (12; 0, +2, +3) which can serve to protect the environment by reducing the energy cost of transporting food long distances. They disagree that fish and wild game are plentiful and can help make up for or add to their meals but may not be safe to eat because of polluted soil, air, or water (45; -1, 0, -2), possibly revealing a belief that people do not supplement their meals with these food sources, or, a lack of confidence in the quality of the natural sources of food in their region. Similar to Factor B, Factor C members disagree that things are going to get worse as welfare reform unfolds and more people will need food because there won't be alternatives to help them (41; +1, -1, -2) and that federal changes in welfare reform will make it harder for low-income people to afford high quality and healthy food (43; 0, -2, -2). Factor C loaders appear to have either mixed feelings or no opinion about promoting hunger awareness in the community (27; +3, +1, 0).

Strategies they support for promoting CFS include: eating locally grown and seasonal available products (12; 0, +2, +3), farmers' markets (18; +1, +1, +2), people working together (4; +3, +2, +2), relying on a group of people who do not think alike (42; -2, -3, -2), and educating children to have basic cooking skills and knowledge about the food system (20; +3, +3, +2). Similar to factor A and B members, Factor C loaders disagree that economic growth, like the US is currently experiencing, will eliminate poverty and provide food security to its citizens (28; -3, -3, -3). They also disagree that if the government would create new jobs, it would improve people's purchasing power so that they can buy their own food (48; -1, -2, -3), and do not agree that private charity should be the first

line of defense against hunger and food insecurity (31; -3, -2, -2).

B. *Salience of viewpoints among stakeholder groups*

Table 1 presents the mean factor loadings for each of the three viewpoints as assessed pre- and post-search conference. These are shown for each of the six counties and according to stakeholder category.⁷ In the pre-conference results there are no significant differences in mean factor loadings among stakeholder groups for Factors B and C. For Factor A (the Social Justice viewpoint) there are no differences in means among counties or by age or years of formal education. However, there are significant differences in mean Factor A loadings by gender (with a higher mean among women) and by occupation (with professionals and consumers having higher means than the producer, processor, and retailer group. The post-conference results are similar in terms of the differences among groups, with the exception that the variation in Factor A across counties and formal education categories also approaches significance ($P = 0.052$ and 0.075 , respectively).

In contrast to the above findings, the analysis of *changes* in mean factor loadings after the search conferences reveals statistically significant results for the total sample and for particular stakeholder groups. For the total sample, there was a significant increase in the mean loading on Factor B (the Pragmatist viewpoint), a significant decrease in the mean for Factor C (the Visionary viewpoint) and a near-significant decrease for Factor A (the Social Justice viewpoint). Examination of changes within stakeholder groups reveals the following:

1. The increase in the salience of the Pragmatist viewpoint (Factor B) is seen in most counties and stakeholder groups and is accompanied by a *decrease* in the salience of the Visionary viewpoint (Factor C), with at least one of these mean changes being statistically significant in most cases. The exceptions to this pattern are Essex County and those with no college education (where the means for *both* factors decreased) and among consumers (who exhibit no change in the Factor C mean and a non-significant increase in the Factor B mean).
2. The near significant decrease in the mean Factor A loading (Social Justice viewpoint) in the total sample is not reflected in all counties or stakeholder groups. There are modest decreases in two of the counties (Jefferson and Clinton) and among those with no college education, but none of these is statistically significant. The only groups in which the decrease is statistically significant are older participants (50 years and older), women,

Table 1. Mean pre- and post-search conference factor loadings.

Group	N	Factor A: pre- post-Z ^c			Factor B: pre- post-Z ^c			Factor C: pre- post-Z ^c		
Total sample (S.D.)	141	0.408 (0.244)	0.389 (0.242)	-0.147 ^a	0.291 (0.189)	0.352 (0.213)	0.414 ^b	0.327 (0.193)	0.284 (0.193)	-0.258 ^b
<i>County:</i>										
Jefferson	41	0.419	0.395	-0.247	0.294	0.394	0.625 ^b	0.315	0.291	-0.190
Lewis	18	0.365	0.360	0.004	0.338	0.376	0.319	0.377	0.291	-0.550 ^b
St. Lawrence	18	0.445	0.446	-0.039	0.218	0.332	0.693 ^b	0.286	0.262	-0.090
Franklin	28	0.445	0.452	0.013	0.259	0.310	0.315	0.339	0.302	-0.180
Clinton	17	0.470	0.410	-0.415	0.309	0.383	0.545 ^b	0.356	0.330	-0.125
Essex	19	0.277	0.236	-0.172	0.339	0.293	-0.191	0.300	0.217	-0.522 ^b
Probability ^d		(0.141)	(0.052)	(0.700)	(0.294)	(0.438)	(0.080)	(0.703)	(0.582)	(0.692)
<i>Age:</i>										
<50 yrs	83	0.401	0.401	-0.007	0.303	0.366	0.431 ^b	0.338	0.287	-0.295 ^b
>=50 yrs	58	0.418	0.371	-0.347 ^b	0.273	0.331	0.389 ^b	0.311	0.279	-0.205
Probability ^d		(0.681)	(0.477)	(0.045)	(0.349)	(0.341)	(0.816)	(0.420)	(0.807)	(0.646)
<i>Gender:</i>										
Men	45	0.292	0.293	0.003	0.311	0.413	0.661 ^b	0.340	0.271	-0.414 ^b
Women	96	0.462	0.434	-0.217 ^b	0.281	0.324	0.298 ^b	0.321	0.290	-0.185 ^a
Probability ^d		(0.001)	(0.001)	(0.218)	(0.381)	(0.020)	(0.057)	(0.576)	(0.592)	(0.269)
<i>Education:</i>										
<= High school	21	0.364	0.317	-0.294	0.304	0.265	-0.201	0.299	0.234	-0.391
1-4 yrs college	73	0.398	0.371	-0.237 ^b	0.265	0.371	0.649 ^b	0.343	0.310	-0.211
>4 yrs college	47	0.443	0.449	0.058	0.325	0.362	0.321 ^b	0.313	0.266	-0.272 ^b
Probability ^d		(0.420)	(0.075)	(0.215)	(0.215)	(0.123)	(0.003)	(0.547)	(0.204)	(0.813)
<i>Occupation:</i>										
Professionals	86	0.455	0.432	-0.153	0.174	0.342	0.306 ^b	0.309	0.276	-0.201
Prod/proc/ret	32	0.270	0.295	0.189	0.280	0.418	0.892 ^b	0.373	0.274	-0.590 ^b
Consumers	23	0.425	0.359	-0.590 ^b	0.274	0.297	0.149	0.326	0.328	-0.011
Probability ^d		(0.001)	(0.019)	(0.015)	(0.795)	(0.089)	(0.011)	(0.287)	(0.486)	(0.136)

^a $P < 0.10$ (two-tailed test).

^b $P < 0.05$ (two-tailed test).

Tests are based on whether the mean Z-change for a group is significantly different from zero.

^c Z-change calculated as in Expositor, 1992. Z-change represents the pre/post difference in a factor loading for an individual, standardized for the standard error in the respective loadings, and adjusted for the intra-subject correlation.

Entries in this table represent the mean Z for each of the groups shown in the first column.

^d Probability value associated with the differences in means among groups.

those with 1-4 years of college education, and consumers. In most cases these decreases are accompanied by an increase in the salience of the Factor B viewpoint (Pragmatist).

- As shown in the mean Z statistics, there is statistically significant heterogeneity in the mean Factor B changes among counties ($P = 0.080$), between men and women ($P = 0.057$), by years of formal education ($P = 0.003$), and by occupation ($P = 0.011$), indicating that the mean change is greater in some groups than in others. There are no significant interactions along these lines for Factor C and only one such interaction for Factor A (with older men experiencing a greater mean decrease than younger men).

In light of the heterogeneity known to exist within the occupational categories shown in Table 1, similar results were examined for a more disaggregated set of stakeholder categories. As shown in Table 2, the overall category of "professionals" is divided into eight specific categories; the producers, processors and retailers are divided into five categories; and "consumers" are divided into four distinct categories. The overall results across these 17 categories (as revealed by the probability values in the last row) confirm that this heterogeneity within occupational categories is associated with significant variation in factor means and (in the case of Factor B) with changes in loadings after the search conference.⁸ The more specific findings of interest are as follows:

Table 2. Mean pre- and post-search conference factor loadings: by stakeholder category.

Group	N	Factor A: pre- post-Z ^c			Factor B: pre- post-Z ^c			Factor C: pre- post-Z ^c		
<i>Professionals:</i>										
Agriculture educator	8	0.322	0.387	0.420	0.423	0.516	0.743 ^b	0.362	0.186	-1.030 ^b
Nutrition educator	18	0.463	0.430	-0.169	0.322	0.391	0.417 ^b	0.353	0.261	-0.566 ^b
Environment educator	5	0.316	0.281	-0.225	0.286	0.388	0.583	0.504	0.410	-0.571
Other educator	14	0.474	0.422	-0.423	0.290	0.321	0.252	0.312	0.286	-0.101
Social welfare staff	10	0.487	0.420	-0.435	0.218	0.122	-0.468	0.163	0.179	0.082
Administrator/manager	19	0.554	0.538	-0.147	0.246	0.289	0.295	0.247	0.295	0.248
Community development/planner	8	0.336	0.334	0.030	0.357	0.416	0.351	0.356	0.359	0.082
Clergy	3	0.390	0.392	0.161	0.330	0.449	0.757 ^b	0.409	0.322	-0.564
Probability ^d		(0.060)	(0.288)	(0.643)	(0.241)	(0.003)	(0.278)	(0.013)	(0.183)	(0.138)
<i>Business:</i>										
Dairy producer	11	0.252	0.289	0.256	0.343	0.5241	0.193 ^b	0.350	0.244	-0.608 ^b
Crop producer	7	0.396	0.484	0.647 ^a	0.236	0.291	0.440	0.364	0.333	-0.139
Other producer	5	0.226	0.243	-0.004	0.061	0.346	1.559 ^b	0.476	0.295	-0.977 ^a
Processor ^e	1									
Retailer	8	0.242	0.218	-0.098	0.316	0.393	0.553 ^a	0.385	0.274	-0.791 ^b
Probability ^d		(0.631)	(0.220)	(0.348)	(0.032)	(0.103)	(0.164)	(0.498)	(0.876)	(0.575)
<i>Consumers:</i>										
Retired	10	0.347	0.315	-0.313	0.247	0.279	0.161	0.269	0.304	0.100
Student ^e	1									
Self-employed	2	0.222	0.112	-0.561 ^a	0.462	0.581	0.950 ^b	0.529	0.363	-1.001 ^b
Other	10	0.543	0.462	-0.836 ^b	0.243	0.294	0.283	0.354	0.371	0.146
Probability ^d		(0.287)	(0.139)	(0.796)	(0.282)	(0.026)	(0.044)	(0.397)	(0.496)	(0.657)
Probability (all groups) ^d		(0.009)	(0.032)	(0.341)	(0.042)	(0.001)	(0.006)	(0.052)	(0.590)	(0.247)
R ²		22.1%	19.3%	-	18.7%	28.2%	-	18.2%	10.3%	-

^a $P < 0.10$ (two-tailed test).

^b $P < 0.05$ (two-tailed test).

Tests are based on whether the mean Z-change for a group is significantly different from zero.

^c Z-change calculated as in Expositor (1992). Z-change represents the pre/post difference in a factor loading for an individual, standardized for the standard error in the respective loadings, and adjusted for the intra-subject correlation. Entries in this table represent the mean Z for each of the groups shown in the first column.

^d Probability value associated with the differences in means among groups.

^e Data for the one processor and one student are withheld to preserve confidentiality but are included in the aggregate statistics and inferential tests.

1. There are systematic differences in pre-conference means among the various professional groups that seem to conform to the viewpoints one might have predicted based on their chosen field and the client groups with whom they work. Specifically, the highest mean for agricultural educators is on Factor B (Pragmatists); the highest mean for nutrition educators, social welfare staff, and administrator/managers (most of whom are in human service organizations) is on Factor A (Social Justice Advocates); and the highest mean for environmental educators is on Factor C (Visionaries). Interestingly, the community development/planners and clergy have intermediate and similar means on all three factors. It is clear that

the overall “professional” category used in Table 1 masks considerable diversity in viewpoints.

2. There also are systematic differences in the *changes* in factor means across the various professional groups. Specifically: a) the Pragmatist viewpoint became more salient in all groups except social welfare staff who experienced a *decrease* in salience for this viewpoint; b) the Visionary viewpoint became less salient for all four “educator” groups and clergy; and c) the Social Justice viewpoint became less salient for all groups *except* agricultural educators and clergy, among whom it increased, and community development/planners who experienced no change. It is relevant to note that the only statistically signifi-

- cant changes were among agricultural and nutrition educators and clergy.
3. In common with the above findings, Table 2 reveals considerable heterogeneity in the salience of viewpoints among various categories of "business" stakeholders, that was not revealed in Table 1. The Pragmatist viewpoint is highly salient among dairy producers and retailers and initially less salient among crop and "other" producers, but all four of these groups experienced an increase after the conferences. The increased salience of this viewpoint after the conferences in these four groups is accompanied by a decreased salience of the Visionary viewpoint, with the changes in three of these groups nearing or meeting statistical significance. Interestingly, the Social Justice viewpoint increased in salience among dairy and crop producers (significantly so in the latter case), similar to the pattern seen among agricultural educators, but did not change among "other" producers and retailers.
 4. For the retired and "other" consumers before the conferences, the Social Justice viewpoint is most salient, the Visionary viewpoint is intermediate, and the Pragmatist is least salient. After the conferences the Social Justice viewpoint has diminished somewhat for these two groups and the salience of the other two viewpoints is somewhat higher. The two self-employed individuals display a different pattern, with a low mean on the Social Justice viewpoint that decreases further after the conference, a high mean on the Pragmatist viewpoint that increases after the conference, and a high mean on the Visionary viewpoint that decreases after the conference. The changes on all three factors approach or reach statistical significance for the self-employed group.
 5. The net effect of all the changes among stakeholder groups appears to be *increased* inter-group variance with respect to the salience of Factor B (Pragmatist) and *decreased* inter-group variance with respect to the salience of Factors A and C. This is supported by several observations: a) the R^2 value at the bottom of Table 2 is substantially higher for Factor B after the conferences compared to before, but the reverse is true for Factors A and C; b) the variation in Factor B means among the eight professional groups and the four consumer groups was not statistically significant before the conferences but is significant after the conferences; conversely, the variation in Factor A and C means among the eight professional groups is statistically significant before the conferences and not significant after the conferences; c) there is a statistically significant interaction ($P = 0.001$)

between stakeholder group and the size or direction of change in Factor B loadings (as reflected in the Z statistic). Taken together, these observations suggest that the search conferences increased the overall salience of the Pragmatist viewpoint but also increased the variance among stakeholder groups in the degree of adherence to this viewpoint. In addition, the search conferences appear to have reduced the overall salience and inter-group variance with respect to the Social Justice and Visionary viewpoints.

Discussion

This study reveals several key findings pertinent to a discussion of the role of values in the formation of public policy related to the food system: 1) some significant differences in viewpoints exist with respect to the social justice and environmental dimensions of the food system; 2) engagement in a highly participatory planning and learning process is associated with *decreased* salience of social justice and environmental concerns and *increased* salience of a viewpoint that is unsympathetic to those concerns; 3) significant differences exist among categories of professionals with respect to the salience of social justice and environmental concerns in the food system; and 4) none of these differences in viewpoints would have been predicted from the high degree of satisfaction participants expressed with the search conferences nor with the nature of the action agendas emerging from these planning events. The implications of each of these findings is discussed below, bearing in mind that this study is based on participants in community planning events in six rural counties in one region of upstate New York.

1. *Dominant values and beliefs.* The existence of distinct values and beliefs concerning the food system as suggested in this study is consistent with previous empirical studies (Beus and Dunlap, 1990, 1991; Allen and Bernhardt, 1995), with practitioner experience in food system planning (Campbell, 1997; Dahlberg, 1994) and, indeed, with the *raison d'être* of the journal *Agriculture and Human Values*. However, one of the valuable features of the present study is the use of Q methodology, which permits a systematic investigation of *patterns* of subjectivity that is fundamental to understanding *constellations* of values and beliefs within individuals or groups, as distinct from opinions about specific issues considered in isolation (Brown, 1980). Q methodology avoids the use of pre-specified categories that limits the insights possible

from most survey research, yet it allows for quantification and can be employed with larger samples than is possible with other interpretivist methods. In the present case, the method allows each respondent to sort the 48 statements about community food security into an order consistent with their own system of values and beliefs. The three viewpoints described here, referred to as Social Justice Advocates, Pragmatists, and Visionaries, emerged through inductive analysis of the sorting patterns. Therefore, this method does not measure the degree of adherence to pre-specified categories (such as the conventional agriculture and alternative agriculture categories used by Beus and Dunlap, 1990, 1991), but rather, reveals the nature of the categories (or “viewpoints”) themselves. In the present case, value conflicts related to social justice emerge as another dominant dimension within the food system, extending the perspective gained from the study of production technologies or environmental dimensions by themselves.

Among the new insights about values suggested from this method are: 1) the Pragmatists (a group that resembles Beus and Dunlap’s conventional agriculturalists) not only deny the salience of environmental and social externalities but also appear unsympathetic to social inequities; 2) the Visionaries (who resemble Beus and Dunlap’s alternative agriculturalists) agree with the Pragmatists concerning the importance of agriculture in their communities but are highly concerned about environmental and social externalities, and they are only mildly concerned about social inequities; and 3) the Social Justice Advocates in this rural region recognize the importance of agriculture in their communities but are concerned first and foremost with addressing social inequities. It is relevant to note that the degree of adherence to the Social Justice viewpoint is negatively correlated with adherence to the Pragmatist viewpoint ($r = -0.511$, $P = 0.0001$) and not correlated with the Visionary viewpoint ($r = -0.058$, n.s.). These two correlations remain largely the same after the search conferences, whereas the Pragmatist viewpoint is positively correlated with the Visionary viewpoint before the search conferences ($r = +0.351$, $P = 0.0001$) and negatively correlated after the search conferences ($r = -0.184$, $P = 0.029$) (Pelletier et al., 1999b). These findings suggest that adherence to different viewpoints sometimes may reflect concern for different dimensions of the food system without implying incompatible values (i.e., positive or near-zero correlations), but in other cases it indeed may reflect the existence of incompatible values and beliefs (i.e., negative correlations). From the perspective of policy formation, it would be easier to achieve agreement in the former case than in the latter.

2. *Changes in values and beliefs.* The analysis of changes in viewpoints after the search conferences reveals a significant increase in the salience of the Pragmatist viewpoint and corresponding decrease in the salience of the Social Justice and Visionary viewpoints. These changes are seen in the total sample and in most stakeholder groups, although the size and statistical significance of the changes vary across stakeholder groups. These results imply that participation in the search conferences is associated with a *decrease* in concern for the social justice and environmental and social dimensions of the food system. A more detailed analysis presented elsewhere (Pelletier et al., 1999b) shows that these changes are found even among individuals with the strongest identification with those viewpoints prior to the search conferences, and that the Pragmatist viewpoint experienced an 88% increase in the number of participants classified as belonging to that viewpoint.

Although it is not the purpose of this paper to speculate on why these changes may be more or less marked in various stakeholder groups, the existence of changes and their general direction do have two implications for interpreting the values and beliefs suggested in the present paper. First, they suggest that highly participatory or collaborative approaches involving diverse stakeholders sometimes may narrow, rather than expand, the range of values considered salient to the domain under consideration. This possibility is generally not reflected in the literature promoting such approaches (Walzer, 1996; Emery and Purser, 1996; Weisbord, 1992) or promoting the virtues of community-based decision-making in general (Schuman, 1998; Etzioni, 1993). Second, the unexpected direction of these changes calls attention to the fact that the design of these search conferences did not incorporate or value any external “expert knowledge” concerning the nature and extent of environmental and social externalities associated with the current food system or any re-localized versions that the participants might have envisioned during the search conferences. For instance, the possibility that, under some scenarios, re-localization of food system activities may have negative impacts on food prices, food safety, and local environmental quality, received little if any attention during the search conference discussions. In light of the extensive evidence that humans’ perceptions of risk and their expressed opinions on a variety of issues is highly dependent upon social context, framing, and background information (NRC, 1989; Kuklinski and Hurley, 1994), among other factors, the present findings suggest that a better approximation of “enlightened understanding” might be obtained if social deliberation were combined with relevant

external knowledge about the domain under discussion (Dahl, 1979). There is growing interest in developing and testing more structured models along these lines for combining social deliberation and technical analysis in regulatory decision-making (NRC, 1996; Renn et al., 1995). Although the search conference methodology provides some basic structure in the sense of a sequence of defined activities, it does not impose nearly the same structure as would be found in many negotiation, conflict resolution, and citizen deliberation models (Breslin and Rubin, 1991; Bush and Folger, 1994; Renn et al., 1995), which may account for some of the findings noted here.

3. *Variation in values and beliefs among professionals.* The observation that the viewpoints of various categories of professionals tend to reflect the values inherent in their chosen field and/or the client groups with whom they interact is of particular relevance to the present paper. This finding is consistent with the now extensive critical literature on the role of professionals as representatives of public values and/or as planners or analysts whose work supposedly is unaffected by their profession-oriented values and world views (Heaver, 1982; Fischer, 1990; Chambers, 1994; McKnight, 1995). The implication for present purposes is that, for food system professionals as with others, none of these professional groups can claim to represent the values and interests of "the public" to any greater extent than could dairy farmers, crop farmers, retailers, or consumers. Moreover, even a planning or policy formation process that purposefully includes a diversity of professionals, in an effort to ensure adequate representation of diverse public values, is problematic because of the organizational pressures and constraints that may cause the behavior of professionals to deviate from the values and interests of the groups they claim to represent. The low level of organizational support and high level of dissolution of work groups formed during these search conferences (with only 13 of 34 groups still active 8–12 months after the conferences) is to some degree a reflection of these pressures (Pelletier et al., 1999). This highlights the need to ensure authentic representation of diverse public values during policy formation, through direct participation of affected parties, and to exercise caution in accepting surrogate representation by professionals.

4. *Values, beliefs, and participatory planning.* The previous discussions re-surface a point made in the Introduction regarding the existence of two broad strategies for avoiding the dangers of unintentional misrepresentation of values during policy formation: conducting research designed to uncover the values

among the group in question (and then seeking to incorporate these into policy design), and employing methods of policy design that allow for the direct participation of the affected parties. In addition to the cautions expressed above concerning indirect representation by professionals, the juxtaposition of this Q methodology study with the action-research component related to the search conferences (Pelletier et al., 1999) provides an opportunity to compare the results from these two approaches. This comparison reveals

- a) despite the existence of distinct viewpoints as revealed through Q methodology, the search conferences revealed few instances of overt conflict and in the written evaluations the participants expressed a high degree of satisfaction with the process;
- b) the action agendas (goals and objectives) emerging from the search conferences showed a high degree of similarity across counties, in all cases emphasized re-localization of many food system activities and in most cases seemed to include goals and objectives relevant to the full range of values and interests suggested by the Q methodology; however,
- c) a closer examination of the values and interests of specific groups (McCullum et al., 1998), the specific objectives pursued during the post-search conference implementation process, and the limited organizational support provided for implementation all suggest that the appearance of satisfaction and consensus during the search conferences is an inadequate measure of the degree to which diverse values and interests were incorporated by the process. These latter observations underscore the important role that implementation plays in determining precisely which values and interests are served and, thus, the importance of not divorcing the goal-setting process from the implementation process (Palumbo and Calista, 1990).

Conclusions

This paper raises questions about whose values should count in developing a philosophy of food and agriculture and what types of processes might be most appropriate for developing such a philosophy. It draws upon some empirical work in one rural region of New York State, as well as the literature on social and political theory, for insights regarding these questions. The overall conclusion is Haynes (1997) and Clancy (1997) are correct in advocating that explicit

attention be given to the values implied by alternative philosophies of food and agriculture and to the consequences for diverse public interests associated with these philosophies. Although the experiences in the North Country project revealed only a sub-set of values and consequences implied by alternative food and agricultural philosophies, these are sufficient to illustrate that tradeoffs in values and consequences do exist even when corporate stakeholders are not included in the analysis, and there are dangers associated with leaving these tradeoffs unexamined. Moreover, the experience highlights the importance of integrating technical analysis and social deliberation in evolving such a philosophy and the need to have the direct participation of affected parties in both aspects. In short, these experiences reinforce the need to consider the three essential conditions for a fully realized democracy (Fishkin, 1991): equality of participation; non-tyranny in the choice of policies; and deliberation to reveal, question, and analyze the full range of values and consequences associated with alternative courses of action. Given that the ultimate goal of developing a philosophy for the Agriculture, Food, and Human Values Society is to promote a corresponding philosophy and set of policies in the public sphere, there are both ethical and pragmatic reasons for respecting these three conditions in our own project, just as we would hope to see in the analogous public sphere.

Acknowledgments

This work was supported by grants from the Division of Nutrition and Physical Activity, Centers for Disease Control, and the USDA Cooperative State Research, Education, and Extension Service. The authors would like to thank the members of the North Country Community Food and Economic Security Network for the many rewarding months of collaboration we shared in this project.

Appendix

Community food security Q-study statements

Below each statement is the pre- and post-conference rounded factor scores for the three viewpoints.

1. Many people lack the knowledge and skills to make healthy food choices, to prepare and keep food properly, and to satisfactorily feed their families.

Factor	A	B	C
Pre	+1	+2	+1
Post	+1	+1	0

2. How I choose to purchase and consume food, and get rid of food waste has an important influence on the environment.

Factor	A	B	C
Pre	+2	+2	+2
Post	+1	+2	+2

3. There is hardly anything more basic than food, and when this issue is discussed in community meetings or anywhere else, it is important to step forward and make our views known.

Factor	A	B	C
Pre	+1	0	+1
Post	+2	+1	+1

4. By working together, people can influence decisions that affect the community around the issue of food security.

Factor	A	B	C
Pre	+3	+2	+2
Post	+2	+2	+2

5. The right to be free from hunger ought to be equally important under the law as all civil, social, and political rights such as the right to vote and the right to religious freedom.

Factor	A	B	C
Pre	+3	-1	-1
Post	+3	-1	-1

6. Societal change has affected agriculture in so many ways – we are now into generations where people do not grow up on or near a farm and have no experience with agriculture so that only a very small segment of society has any real knowledge of agriculture.

Factor	A	B	C
Pre	+2	+2	+3
Post	0	+3	+3

7. Even though some consumers want organic produce, most of them won't eat anything that's less than perfect. If they even see one worm hole or nick, they won't even touch it. They would rather have the nice shiny apple that was grown with chemicals. This consumer demand forces farmers to overuse chemicals.

Factor	A	B	C
Pre	-1	-1	0
Post	-1	0	-1

8. Government policies related to transportation, community development, and the environment all affect a community's food security.

Factor	A	B	C
Pre	+1	0	+1
Post	+1	+1	0

9. Dairy farmers in the North Country have been discouraged from going into vegetable or crop farming because lending institutions give loans for the number of cows a farmer has instead of crops or acreage. The message we get is that crop farming is not dependable.

Factor	A	B	C
Pre	-1	-2	0
Post	-1	-1	0

10. Welfare has become a way of life for some people, and giving them free food makes them dependent instead of self-sufficient. I don't believe people should go hungry but the government has encouraged some of them to just stand there with their hands out, and that's not right.

Factor	A	B	C
Pre	-1	+3	0
Post	-2	+2	+1

11. What people don't realize is that farmers produce more than just food. They also support the local economy by using tremendous amounts of utilities like electricity, pay a lot of taxes for the services they receive, buy expensive equipment, and take their animals to the veterinary clinic. When farmers go out of business, the local community will also lose a lot of business.

Factor	A	B	C
Pre	+2	+3	+3
Post	+2	+3	+3

12. As a consumer, I can actively participate in supporting my food system by eating locally grown and seasonally available products.

Factor	A	B	C
Pre	0	+2	+3
Post	+1	+2	+3

13. Federal and state programs have traditionally taken care of food security so it has not been perceived as an important issue that local communities can do anything about. We are entering an era, though, where we will need to increase the community's capacity to ensure food security in creative ways.

Factor	A	B	C
Pre	0	0	0
Post	0	0	0

14. Our present food system has fundamental problems. Family farms and rural communities are declining, and

urban residents are not involved in or aware of how their food is produced.

Factor	A	B	C
Pre	+1	0	+2
Post	0	+1	+2

15. Many low-income people who have received welfare in the past do not take personal responsibility to feed their families. I think the Welfare Reform Law is a positive change because it makes individuals and families personally responsible for obtaining food.

Factor	A	B	C
Pre	-2	0	-1
Post	-2	0	-1

16. Homemade vegetable soup made with locally grown produce may be the cheapest and healthiest way to feed a family, but instant soup mix that's processed and high in salt is what's being sold on TV. Nutrition educators just can't compete with the big advertising budgets of large corporations.

Factor	A	B	C
Pre	-1	-2	0
Post	0	-2	0

17. I think the United States has the most abundant, efficient, and inexpensive food supply in the world.

Factor	A	B	C
Pre	-1	+3	-1
Post	-1	+3	-2

18. Farmers' markets help to improve economic growth for a community while increasing peoples' access to locally grown fresh fruit and vegetables.

Factor	A	B	C
Pre	+1	+1	+2
Post	+1	+2	+3

19. It's just not realistic to think we can create a food system that is economically and environmentally sound, socially just, and that also produces healthy food that everyone can afford.

Factor	A	B	C
Pre	-3	-2	-3
Post	-3	-3	-3

20. As part of their education, our children deserve to be taught basic cooking skills and to learn the impact of their food choices on themselves, on their culture, and on their environment.

Factor	A	B	C
Pre	+3	+3	+2
Post	+3	+3	+2

21. If you are hungry, go find a job. It doesn't have to be a condition that has to exist. Even if you don't have a job, you could grow food in your own garden. It just takes effort.

Factor	A	B	C
Pre	-3	-1	-1
Post	-3	-1	-1

22. We pay more for tomatoes shipped all the way from California than we do for better tasting ones grown locally. Why can't we get the good produce that's grown right here? It is a major loss to our local economy.

Factor	A	B	C
Pre	0	0	0
Post	0	-2	+2

23. Even with two people working on minimum wage, it's hard to stretch food dollars. Today, a family has to pay their own medical, housing, water, lights and fuel, which cuts into their grocery money.

Factor	A	B	C
Pre	+2	+1	0
Post	+2	0	+1

24. There is no need for government monies to produce food. It's best to keep things demand-driven and I think the less meddling the government does in the food system the better. Let the marketplace handle itself.

Factor	A	B	C
Pre	-2	-1	-1
Post	-2	0	-1

25. Most people have no idea whose soils produce their food and forget that there is a connection between food and the land.

Factor	A	B	C
Pre	0	0	+3
Post	0	+1	+2

26. It is important for my community to have a clear shared vision in order for food security to take hold.

Factor	A	B	C
Pre	0	+1	0
Post	0	0	+1

27. There are people who are hungry out there. Maybe they don't look like they're starving because they're not skinny and scrawny or maybe a family is just having a hard time. I think we need to increase everyone's awareness of hunger in our community.

Factor	A	B	C
Pre	+3	+1	0
Post	+3	0	0

28. Economic growth, like the United States is currently experiencing, will eliminate poverty and provide food security to all its citizens.

Factor	A	B	C
Pre	-3	-3	-3
Post	-3	-3	-3

29. Our food system will be able to satisfactorily meet the needs of our present generation without hurting those of future generations.

Factor	A	B	C
Pre	-2	0	-2
Post	-2	0	-3

30. The key elements in making sure that everyone has adequate, safe, and affordable food are putting the importance of community first, encouraging strong local participation, and building support from within the community.

Factor	A	B	C
Pre	0	0	+1
Post	0	0	+1

31. Private charity should be the first line of defense against hunger and food insecurity.

Factor	A	B	C
Pre	-3	-2	-2
Post	-3	-1	-2

32. I am satisfied with the amount of influence I have over decisions that affect my community's food security.

Factor	A	B	C
Pre	-2	-1	-1
Post	-2	-1	-2

33. People don't know that a hunger crisis can occur in the United States like that which is happening in other countries around the world. I would rather see us have ways to talk about and find answers to it now rather than reacting to a crisis.

Factor	A	B	C
Pre	+1	+1	+1
Post	+1	0	0

34. The food system in the United States produces a large amount of affordable food but it is at the loss or damage to our soils, waters, farmers, and communities.

Factor	A	B	C
Pre	0	-3	+2
Post	-1	-2	+1

35. If you want to build food security, you need to get community people involved like producers and the hungry rather than just professionals. That means we need to get someone who is actually out there spraying corn today or somebody that doesn't have food tonight to build enthusiasm and support for it.

Factor	A	B	C
Pre	+1	+1	+1
Post	+2	+1	0

36. Controlling what issues get talked about or don't get talked about is one of the most hidden forms of power.

Factor	A	B	C
Pre	+2	+1	0
Post	+3	+1	0

37. Most people seeking food assistance are working people, not necessarily on welfare, who just can't make it on minimum wage or with part-time work with no benefits.

Factor	A	B	C
Pre	0	-1	-1
Post	+1	-1	-1

38. Thoughtfully controlling how I use my food buying power is my responsibility toward building a healthier environment, a safer food supply, and a more sustainable food and agricultural system.

Factor	A	B	C
Pre	0	+2	+1
Post	+1	+2	+1

39. I feel that my community doesn't fully use the businesses and skills of the workforce to create products or services that can be marketed locally.

Factor	A	B	C
Pre	0	0	0
Post	0	0	0

40. We talk a lot about people with limited financial resources, which is important, but I also think the average person has different concerns about food security. Maybe they have a car and can get to a store but they want to buy locally grown food that isn't grown with pesticides and shipped across the country.

Factor	A	B	C
Pre	0	0	0
Post	-1	0	0

41. Things are going to get worse as welfare reform unfolds. We're going to see more people needing food because there won't be alternatives to help them.

Factor	A	B	C
Pre	+1	-1	-2
Post	0	-1	-2

42. If you really want to get something done about food security it's best to have a group of people who think alike to work together effectively.

Factor	A	B	C
Pre	-2	-3	-2
Post	-2	-3	-1

43. Federal changes in welfare reform will make it harder for low-income people to afford high quality and healthy food.

Factor	A	B	C
Pre	0	-2	-2
Post	0	-2	-2

44. Americans will find themselves in trouble down the road because of all the food they import – similar to the oil embargo of the 1970s – we will be held hostage by other countries that produce our food.

Factor	A	B	C
Pre	-1	-3	-1
Post	-1	-2	-1

45. Fish and wild game are plentiful and can help make up for or add to my meals but may not be safe to eat because of polluted soil, air, or water.

Factor	A	B	C
Pre	-1	0	-2
Post	0	-1	-1

46. Genuine empowerment involves bringing people affected by an issue into a community discussion and give them the resources they need to do something about it.

Factor	A	B	C
Pre	+2	+1	+1
Post	+2	+1	+1

47. I think that lots of small farms transporting small amounts of produce in small gas-guzzling trucks to farmers' markets may very well use more energy than the huge diesel semis that haul tons of produce from thousands of miles away.

Factor	A	B	C
Pre	-2	-1	-3
Post	-1	-2	-3

48. If the government would create new jobs, it would improve peoples' purchasing power so that they can buy their own

Factor	A	B	C
Pre	-1	-2	-3
Post	-1	-3	-2

Notes

1. A large number of case studies are available pertaining to energy, technology, education, health, agriculture, and other policy domains (Barker and Peters, 1993; Savage, 1996; Fischer, 1990; Rochefort and Cobb, 1994; Cobb and Ross, 1997; Pasour, 1990). Some examples pertaining to food, nutrition and health can be found in Kjaernes et al. (1993), Maurer and Sobal (1995), Ohls and Beebout (1993), and Sims (1998).
2. By the same token, this conceptual framework can be used to identify and anticipate potential weaknesses in the search conference and other models. Of particular concern is: a) the results from a search conference may or may not relate well to the prevailing goals and decision-making processes at community or organizational level, creating a possible threat to implementation of actions; and b) differential power relations among participants may affect the agenda developed within the search conference, despite efforts to minimize this, and may certainly affect the implementation of that agenda after the search conference. These issues are taken up in other papers emanating from this project (Pelletier et al., 1999b).
3. For methodological reasons the term "viewpoints" is used here and for the remainder of the paper when referring to the objects measured in this study through Q methodology. It is assumed that these viewpoints reflect an indeterminate mix of values, beliefs, attitudes, opinions, and factual knowledge. The terms values and beliefs are used only when referring to these theoretical constructs per se, as opposed to the objects actually measured by Q methodology in this study.
4. As noted by Brown (1980), eigenvalues and percent of variance explained are relatively meaningless as criteria for deciding the number of factors in Q methodology, such that the criteria of distinctiveness and coherence are preferred. This is because the usual statistical criteria, when applied in Q methodology, depend upon the arbitrary number of people in the total sample and the number loading on each factor. This is in contrast to R factor analysis in which these criteria refer to the total number of variables and the number of variables loading on each factor. This difference stems from the rotated data matrix described in the text. Nonetheless, for descriptive purposes it is relevant to note that the three-factor solution accounted for 49% of total variance pre-conference (23%, 12%, and 14% for Factors A, B, and C, respectively) and 50% post-conference (21%, 17%, and 12% for Factors A, B, and C, respectively). The addition of a fourth factor yields only an additional 3% of variance pre-conference and post-conference (i.e., most people load on the first three factors).
5. With respect to comparability of pre/post factors, it is important to note that Q methodology does not lend itself to separating the changes in factor structure from changes in individual loadings on each factor. This is because, unlike R factor analysis, the rotated data matrix used in Q methodology precludes creating an array of 48 pre-conference coefficients corresponding to a Q-sample of 48 statements, to be applied to the post-conference scores that each individual gave to the statements. Thus, the validity of the pre/post comparisons hinges on the degree to which the *substantive interpretations* of each factor are comparable before and after the conferences. As noted here and documented in greater detail elsewhere (Kraak et al., 1998), there appears to be remarkable stability in the top ten agree, top ten disagree, and distinguishing statements that underlie these substantive interpretations. This suggests that whatever modest changes in factor structure did occur are unlikely to fully account for the size of the changes being observed.
6. The labels attached to the three factors have been chosen in consultation with community members.
7. Note that although the mean loading on Factor A is higher than that for Factors B and C in this sample, this has no inherent meaning in this study because the participants were not chosen to be representative of their communities nor of their particular stakeholder groups. Thus, in describing results in Tables 1 and 2 attention is directed to variation in mean loadings *among stakeholder groups* and in the pre/post-search conference comparisons, rather than in the absolute levels across the three factors.
8. Formal tests were conducted comparing the full (17 category) and reduced (3 category) models and revealed that the full models are associated with a significant ($P < 0.05$) or near significant ($0.05 < P < 0.10$) improvement in explained variance for all three factors (post) and for the change (Z) in Factors A and B.

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