Food Systems in 2050

Visions for food systems that sustain people and planet

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Introduction

We report the findings of a survey distributed globally to a diverse set of food system actors to share their visions for a better food system. The impetus for the survey was a call for proposals released by the Global Alliance for the Future of Food (GAFF) for projects that will "seek input from our vast and diverse networks across borders and disciplines to help craft innovative, inspiring, bold transformative visions for healthy, equitable, renewable, resilient, and culturally diverse" food futures.

Responses to this survey came from seventeen countries. Though most respondents work with particular elements of food systems on a daily basis, they are rarely asked to share their visions for better food systems and to describe, from their perspectives, the opportunities and obstacles that influence progress. The research team proposed to tap this rich resource in order to elicit and present diversely situated, well-positioned, and informed visions for food systems transformations.

The main points to emerge from the survey were:
- Majority agreement with the basic vision presented for reaction with suggestions for modification which are incorporated in a revised aspirational food system statement.
- A number of necessary transformations for this vision to become reality were cited including: policy/governance change, Infrastructure/connectivity, expansion of local systems, education/training/research, issues of social equity around food, natural resource conservation/restoration, health/nutrition, and changes to economic systems or markets.
- The top five environmental factors identified as most directly impeding their ability to move the food system toward their vision were: 1) Ineffective government/policies, (2) farm/agri-food system issues, (3) lack of financial resources, (4) lack of technology, (5) non use of science/stakeholder participatory collaboration.
- The top five social factors identified as most directly impeding their ability to move the food system toward their vision were: (1) lack of education/knowledge/information/ awareness, (2) poverty, (3) consumer preferences/changes in lifestyles, (4) mindset/traditional practices/culture, and (5) land access.
- The top five political and economic factors identified as most directly impeding the ability to move the food system toward their vision were: (1) high unemployment rate/poverty/inequality in access to resources, (2) inadequate political will/policies, (3) policy favoring big agricultural producers/unfavorable for small producers, (4) poor infrastructure, (5) concentration of wealth and power in the hands of a few.
- The top five cultural and/or behavioral changes needed in societies were identified as: (1) systems thinking/mindset change, (2) establish more business mindset/capacity

development, (3) changes in consumption patterns/consumer preferences, (4) education/knowledge, and (5) policy change/regulations.

- Respondents identified sixteen areas of measurement to gauge improvement in the food system over time. The top five were: (1) public health/food nutrition/food quality, (2) household food access year-round/food availability, (3) increase in local food production/processing/ market transactions/profitability/incomes of local people, (4) environmental quality/impact of food production on environment (e.g., air, water), and (5) producers' livelihoods/economic well-being.

The remainder of the report describes these reports in more detail and then provides a conclusion with an augmented aspirational narrative and summarizes key strategies and impediments identified by respondents.

Team and Methods

The core team of researchers is based in the Department of Community Sustainability (CSUS) at Michigan State University.[1] CSUS is an interdisciplinary department that addresses contemporary issues of sustainability in agriculture, recreation, natural resources, and the environment. Departmental faculty prioritize community-engaged and collaborative research and, consequently, are equipped with a broad range of expertise as well as an extraordinarily diverse network of professional relationships. Each team member referred to their networks and identified a list of at least eight respondents who would be well positioned to provide an overview of their respective food systems.

The survey was comprised of 12 questions (Appendix 1) and focused on eliciting respondents' perspectives on transformation of the regional (however they defined it) and global food system, i.e. what would constitute more desirable food systems, and the opportunities and obstacles for achieving them. Prior to taking the survey, respondents were presented with an *aspirational narrative* that encouraged them to think of their food system work in relation to the Sustainable Development Goals.

The MSU IRB application for research with human subjects was approved and determined exempt on September 19th and the survey was distributed to 195 participants[2] on September 20, 2018. The survey was administered through Qualtrics, an online survey software. It remained open for two weeks during which time respondents were reminded twice to complete the survey. Forty-five surveys were completed (see Tabler 1), representing a response

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[1] Originally, the project was to be a collaborative effort between Michigan State University and the German NGO, Think Tank for Sustainability. However, new European Union regulations regarding the protection of subjects located in the EU caused a significant delay with the Institutional Review Board (IRB) approval process. It was finally determined that in order to carry out the survey in a relatively timely manner, it was necessary to exclude any EU citizens or organizations from the inquiry.

[2] A number of distributed surveys 'bounced back.' Those were not included in this figure.

rate of 23%. Three researchers first reviewed a subset of three surveys to independently derive themes and then met to develop common codes. Through a collaborative process, five core researchers then determined the organization of findings that are presented in this report. Due to time constraints the analytic process was not as rigorous as possible yet the data does point towards broad areas of agreement and suggestions for further research. A first draft was submitted to GAFF and the wider CSUS research group for review on October 19, and a final version on October 26th,2018.

Table 1: Country and Number of Respondents		
Benin, 1	India, 4	Senegal, 1
Brazil, 1	Malawi, 6	Tanzania, 2
Cambodia, 4	Mali, 2	United States, 12
Canada, 2	Myanmar, 1	Zambia, 1
Colombia, 2	Nepal, 2	Zimbabwe, 1
Ecuador, 2	Nigeria, 1	

Findings

Aspirational Narrative

Findings should be considered in relation to the aspirational narrative used for the survey (see Appendix 1 for original version).

This aspirational vision represents the totality of the Global Alliance Principles. However, we wanted to explore whether it represented the breadth of visions for food systems transformation among an array of communities across the globe. Our goal with the aspirational vision was to create a common foundation for reaction while not forcing reactions in any particular direction.

Section 1. Scope of Food System Transformations

1. Boundaries of food systems

Respondents had a variety of conceptions of the boundaries of the food system they were considering for the remainder of the questions. Most typically (89%) of respondents had some combination of household (13%), local (20%), regional (38%– ranging from 'country' to 'continent'), and/or global (20%). Twenty percent of respondents indicated more than one of these.

2. Visions of a Transformed Food System

The initial analysis revealed that a majority of respondents largely agreed with the broad transformative focus of the narrative (53% yes or yes-and) with 16% definitively saying 'no' with a number of qualifiers. In addition, 20% were ambiguous – they described the kind of food

system they wanted or elements of it that they perceived were not congruent with the aspirational narrative while two did not answer the question. In their reflections, respondents took different approaches to describe their opinions. Some either detailed reasons for why the narrative fits with their vision, or answered decisively in the affirmative. Others detailed what they thought was missing or what should be strengthened in the language.

Most commonly the 'yes' responses did not have reasons (18 of 24 total yes responses). Some respondents stated that the narrative was lacking in several features and areas. The most frequent theme identified as missing/lacking by those largely agreeing with the narrative was a focus on local food systems (18%). Other themes such as development of agricultural technologies and infrastructure, policy change, public participation, and stronger language on the conservation/restoration of ecosystems had a couple of responses each. Examples of responses include:

"Yes it does." (Cambodian respondent 1)

"The above description represents my vision of food system. The food system is embedded in a socio-institutional and agroecological conditions."(Benin respondent 1)

"Yes it does represent my vision of a diverse food system without a few commodities dominating the entire ecosystem at the expense of others." (Zimbabwean respondent 1)

Those disagreeing sometimes seemed to agree in the negative, such as these respondents:
"Not at all. My vision is to see a totally transformed global food system. I have been working towards this. [We] will be having [the] Second International Conference on Food Security and Hidden Hunger with theme, Transforming National Food Systems". (Nigerian respondent 1)

"No. The food system I wish to exist elevates, centers, and prioritizes food accessibility for local and regional actors over global actors. I wish large institutional and commercial buyers in our local area would prioritize more local food contracts. I wish our county and state policies would provide incentives for this to happen. I wish that people at all income levels had access to healthy food." (United State respondent 3)

Respondents were also prompted to reflect on (up to four) major transformations that would need to occur for the current regional/global food system to align with their vision. Of the stated transformations the following emerged as most-frequently reported themes:

- Policy/governance change (51%),
- Infrastructure/connectivity (36%),
- Expansion of local systems (36%),
- Education/training/research (24%),
- Issues of social equity around food (22%),
- Natural resource conservation/restoration (22%),

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- Health/nutrition (22%), and
- Change to economic systems or markets (20%).

Policy/governance issues included the need for (and enforcement of) standards and regulations, government investment in local food systems, policies to address climate change, and comments on the general policy environment. Comments concerning infrastructure/ connectivity ranged from market and supply chain infrastructure especially for smaller growers to a variety of natural resource issues (e.g. water and irrigation for small holders). A number of respondents commented on the need to increase a range of services and supply chain issues for local food systems.

3. Current Food System Transformations

Respondents were asked about the current food system transformations already occurring in their region. The analysis of coded data revealed that respondents have perceived both positive and negative transformations. In total there are approximately 48 statements of a negative transformation occurring within their food system and 36 statements of positive transformations – with positive transformations over-represented in the U.S. – 39% of responses by 27% of respondents. A number of other coded items could not be determined as perceived positive or negative without making an assumption about the respondent's intentions. In this case there are relatively few of any one transformation and often there are responses on both sides of a theme. For e.g., some aspect of ecosystem conservation and management was cited by 27% of respondents – mostly negative examples of natural habitat loss or fresh water degradation – yet several with positive examples such as an increase in sustainable agriculture trends. On the positive side, individuals cited such things as a renewed focus on community-based food organizations (CSAs, Food Policy Councils, farmers markets, etc.), increased productivity of cropping systems, an increased access to organic markets, increased integration of global markets, increased focus on food security, and improved diversity in food production. On the negative side, individuals cited such things as environmental degradation, the negative impacts of a changing climate, innovations leaving out the most vulnerable, health effects of pesticides, movement towards decreased diversity of production, among others.

Section 2. Barriers Preventing Transformation

1. Factors Most Directly Impeding the Ability to Move the Food System toward the Vision

Respondents were asked to list three factors that most directly impede their ability to move the food system toward their vision. The analysis of coded data revealed a number of emerging themes – the top five being:
- Ineffective government/policies (40%),
- Farm/agri-food system issues (22%),
- Lack of financial resources (20%),
- Lack of technology (20%),

- Use of science/stakeholder participatory collaboration (18%).

Specific comments within ineffective government and policies were typically concerned with a lack of coherence in policy across different components of government – for e.g. health and agriculture – and/or a lack of implementation/regulation of existing policy. There were also statements related to a large gap between science and policy – the implication being that good science is often not used in policy development.

> *"The policy measures are mostly politically motivated than scientifically grounded."*
> *(Malean respondent 2)*

> *"Find ways to have a greater impact on the design of public policies that incorporate a more equitable vision of the food system." (Colombian respondent 2)*

Comments regarding farm/agri-food system issues included a number of statements about infrastructure, including lack of post-harvest farmer storage both for preservation of crops and to play the markets on sales, lack of food processing, and inefficient production. Financial resource lack typically referenced insufficient resources to produce efficiently or to scale up production. Technology statements either simply stated it as a fact or referred to a lack of appropriate technology for the scales they are working with (with the assumption that this means smaller scale).

With respect to underdeveloped stakeholder participatory collaboration there were statements regarding the lack of appreciation for local knowledge, lack of understanding of key community leaders, bias by development agencies regarding local foods, and lack of coordination among others. As one respondent stated:

> *"Uncoordinated efforts to use existing experiences and research outputs to fit local context implementation." (Malawian respondent 3)*

2. *Major Environmental Challenges in Communities*

Respondents were asked to identify the three biggest environmental challenges in their communities to achieving their vision of a food system. The analysis of coded data revealed the following five most stated themes:
- Climate change/high weather variability (58%),
- Soil erosion/land degradation (38%),
- Pollution (e.g., water, air) (31%),
- Water constraints (24%), and
- Environmental degradation/new pests and diseases (22%).

Some specific comments related to these are outlined below.

Climate change/high weather variability (*note that some perceptions may not be scientifically validated at this time*)

- Rising temperature and droughts
- Increasing floods and other similar unpredictable phenomena
- High weather variability
- Climate variability impacting on yields and/or changing ability to grow certain crops

  "Climate change-erratic rainfall patterns, especially when our regions are dependent on monsoon" (Indian respondent 1)

  "Climate change affects ability of farming communities to produce food as its causes more frequent floods, erratic rains, strong heatwaves, more frequent and prolonged droughts, and more and stronger wind and rain storms." (Cambodian respondent 2)

Soil erosion/land degradation

- Poor soil health
- Soil nutrient depletion
- Land availability
- Soil quality information (access to testing and remediation methods).

  "It takes time to rebuild soils - past abuse that has severely degraded soils."(United States respondent)

Pollution (e.g., water and air)

- Increased pollution and risks caused by the improper use of industrial pesticides or herbicides
- Water pollution (from both fields and animal confinements)

  "Using the wrong chemicals or applying when not needed for controlling insects and diseases.." (Myanmar respondent 1)

Water Constraints

- Decreased water and lowered water tables
- Water scarcity

Environmental degradation/new pests and diseases

- Deforestation
- Decrease of natural resources
- Increased incidence of pests and diseases

3. *Major Social Challenges in Communities*

Respondents were asked to identify the three biggest social challenges in their communities to achieving their vision of a food system. The analysis of coded data revealed the following five most stated themes (of twelve identified):

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- Lack of education/knowledge/information/awareness (51%),
- Poverty (22%),
- Consumer preferences/changes in lifestyles (22%),
- Mindset/traditional practices/culture (20%),
- Land (16%).

Some of the challenges identified within these themes are listed below.

Lack of education/knowledge/information/awareness

- Lack of public education and awareness around food systems – linkage between food choice and its impact on environment
  "The lack of public education around food systems and the power of individuals in their food choices." (United States respondent 9)

  "Lack of popular awareness of the link between food choice and environmental sustainability." (Canadian respondent 1)

- Lack of access to adequate information for smallholder farmers
- Lack of rural service aiming educational and technological improvements.
- Inequality in accessing of resources
  "Majority of smallholder poor farmers with very less access to adequate information and linkages to markets." (Indian respondent 1)

Poverty

- High levels of poverty in urban and rural areas

Consumer preferences/changes in lifestyles

- Changes in dietary patterns
- Diminished frequency of cooking from scratch and sharing meals with others
  "Preference for processed food and low-variety diets has changed production, in order to focus on single-crop production and losing rates of production of regional-specific crops that would perfectly supply a better nutrition condition." (Colombian respondent 1)

Mindset/traditional practices/culture

- Culture, which holds back uptake of new innovation need to ensure better food systems
- Cultural barriers which give women limited access to resources

Land

- Land access
  "Urbanization hindering access to agricultural land" (Columbian respondent 1)
  "High land concentration." (Brazilian respondent 1)

- Land conflict

    "Land Dispute"s (Tanzanian respondent 2)
    "Disputes between Farmers and Livestock keepers" (Tanzanian respondent 2)
    "The conflicts over natural resources" (Malean respondent 2)

4. *Major Political and Economic Challenges in Communities*

Respondents were asked to identify the three biggest political and economic challenges in their communities to achieving their vision of a food system. The analysis of coded data revealed the following five most stated themes (of seven identified):

- High unemployment rate/poverty/inequality in access to resources (40%),
- Inadequate political will/policies (29%),
- Policy favoring big agricultural producers/unfavorable for small producers (20%),
- Poor infrastructure (11%),
- Concentration of wealth and power in the hands of a few (9%).

Some of the challenges identified within these themes are listed below.

High unemployment rate/poverty/inequality in access to resources

- Unemployment
- Poverty

    "Concentrated poverty also means that our food system can never be fully just and accessible to all - whether at the point of purchase, business creation, or food production." (United States respondent 6)

- Inequality in access to resources
    "The limited financial resources." (Malean respondent 2)

- Low investment in agriculture at farm level
- Little access to credit

Inadequate political will/policies

- *"Market improvement is not a priority to most government officials" (Malawian respondent 2)*
- *"Poor implementation of policies and programmes to support transformation of food systems" (Nigerian respondent 1)*
- *"Lack of political will on key food system aspects" (Indian respondent 1)*

    "The market for sustainable agriculture products is still very underdeveloped and has very little support in public policy and final consumers." (Colombian respondent 2)

- Small producer market support
"Public policies are needed that encourage small producers and provide financial incentives" (Ecuador respondent 2).

- National policy vs local need
"Often policies are established at the national level without consulting the local level where implementation has to happen" (Benin respondent 1)

Poor Infrastructure

- *"Poor agricultural marketing system and low value addition of products." (Malawian respondent 5)*
- *"Poor infrastructures (road, processing, conservation)" (Malean respondent 1)*

Concentration of wealth and power in the hands of a few

- *"Concentration of political power in cities with no devolution of power to local communities." (Zimbabwean respondent 1)*
- *"Concentrations of wealth and power in transnational corporations" (United States respondent 1)*

5. *Cultural and Behavioral Changes Needed in Societies to Support Transformation*

Respondents were asked to identify the cultural and/or behavioral changes needed in societies to support transformation. The analysis of coded data revealed the following five themes:

- Systems thinking/mindset change (36%),
- Establish more business mindset/capacity development (33%),
- Changes in consumption patterns/consumer preferences (27%),
- Education/knowledge (22%), and
- Policy change/regulations (9%).

Some of the challenges identified within these themes are listed below as quotes from the respondents.

Systems thinking/mindset change

- *"Diversity of food systems for different contexts and configurations and the revaluation of these differences can be also a source of revaluations of cultural differences instead of pushing a model that fits all." (Colombian respondent 2)*
- *"Farmers should change their mindset from just needing subsidies for the same kind of production, to instead see themselves as small-scale enterprises that fulfill an important role within society, whom should take better financial and long-run production decisions." (Colombian respondent 1)*

- *"More debate and inclusiveness across sectors for bringing about transformation aiming at systemic changes rather than islands of small changes." (Indian respondent 1)*
- *"The understanding that transformation is a collective performance" (Malean respondent 2)*

Establish more business mindset/capacity development
- *"Build capacities within systems." (Indian respondent 1)*
- *"Knowledge to go for market system approach" (United States respondent 5)*
- *"Make people looking agriculture and livestock as a mean of business, not only for food production." (Senegalese respondent 1)*
- *"Building the capacity of the young generation to embrace local food as a source of distinctiveness in a world that is compelling everyone to be the same." (Zimbabwean respondent 1)*

Changes in consumption patterns/consumer preferences
- *"Preference for balanced dietary patterns" (Indian respondent 2)*
- *"Preference for fresh, healthy and nutritive food" (Indian respondent 4)*
- *"Embrace food variety - e.g. in Malawi.. try other unconventional foods" (Malawian respondent 5)*

Education/knowledge
- *"Education -- it is the key. Both formal and non-formal education should promote for transformation of food systems." (United States respondent 7)*
- *"Education, awareness about health and nutrition, nutrition education" (Nepal respondent 2)*
- *"Education about local and indigenous foods" (United States respondent 3)*

Policy change/regulations
- *"Politician should start prioritizing the development of markets when they are voted in power because the local markets serve most of the nation's population" (Malawian respondent 2)*
- *"Policies and programmes to support food system transformation implemented" (Nigerian respondent 1)*

Section 3. Measurements

1. Aspects of the food system to be measured over time to determine whether the system is improving

Respondents were asked to identify the measurements over time to gauge improvement in the food system over time. The analysis of coded data revealed the following five leading themes (of 16 identified):

- Public health/food nutrition/food quality (47%),
- Household food access year-round/food availability (40%),
- Increase in local food production/processing/ market transactions/profitability/incomes of local people (40%),
- Environmental quality/impact of food production on environment (e.g., air, water) (20%), and
- Producers' livelihoods/economic well-being (16%).

Some of the challenges identified within these themes are listed below as quotes from the respondents.

Public health/food nutrition/food quality

- *"Percentage of people who are obese or have chronic, diet-related disease." (United States respondent 6)*
- *"Contributions of local crops to nutritious eating" (United States respondent 8)*
- *"Type and quality of the food consumed" (Ecuadorian respondent 1)*
- *"Net calorie, protein and micronutrients intake" (Indian respondent 2)*

Household food access year-round/food availability

- *"Access -- are more people able to purchase, procure, or grow local, healthy, or indigenous foods" (United States respondent 3)*
- *"Access to affordable foods and food products" (Malawian respondent 5)*
- *"Access to food produced localy for the majority" (Senegalese respondent 1)*
- *"Types of food items readily available in the local markets" (Myanmar respondent 1)*

Increase in local food production/processing/ market transactions/profitability/incomes of local people

- *"Distribution of land for growing food" (United States respondent 10)*
- *"Income per unit area of land or income/animal head" (United States respondent 7)*
- *"Efficiency in supply systems" (Malawian respondent 3)*
- *"Real cost of food being paid" (Indian respondent 1)*

8Environmental quality/impact of food production on environment (e.g., air, water)

- *"Water quality derived from agricultural areas" (United States respondent 1)*

- *"Changes in cropland expansion into the forest" (Zambian respondent 1)*
- *"Environmental impact of producing food" (Indian respondent 1)*

<p style="text-align:center; color:green;">Producers' livelihoods/economic well-being</p>

- *"Producers livelihoods/economic well-being" (United States respondent 10)*
- *"Livelihood" (Cambodian respondent 4)*

Other themes that did not rise to the top 5 but deserve mention due to their centrality in different parts of the world include:

- Support for small/local producers/people of color,
- Food production/access to production resources/infrastructure,
- Policy aimed to increase food access,
- Social equity,
- Adoption of food system sustainability practices,
- Risk,
- Connectivity,
- Resilience,
- Food waste, and
- Diversity of crops.

Section 4. Conclusion

Given the time period allotted this is a fairly small sample – yet a number of useful ideas and strategies were identified with a good deal of similarity across countries and continents. This leads to a revision of the original aspirational food system narrative as well as ideas for moving forward. Overall, the data tends to indicate most of the barriers identified and solutions proposed operate at very high scales, outside of the respondents' control. In other words, they perceive themselves almost to be 'stuck' in a system not of their making, over which they have little control. It may be useful to generate a general aspirational narrative adopted by a large number of people, governments, businesses, and philanthropies around the world as a strategy to expand conversations and actions at various level of potential impact.

Based on this research we modify and enhance the original aspirational vision paragraph (changes in green or ~~strikethrough~~) as follows:

Let us start by imagining a future where all forms of malnutrition are eliminated (SDG 2) and we have achieved low levels of obesity/chronic disease globally, with greatly reduced levels of acute disease (SDG 3). A world composed of connected webs of cooperation across regions, insuring diversity, resiliency, and global communication (SDG 17). Local food systems embedded in regions across

the globe provide good livelihoods for those engaged in the production, processing, transportation, storage, and marketing of foods, as well as the management of compostable and reusable waste. Food from larger regions and global supplies is embedded with this as needed to insure food security. The food system is doing its part to eliminate poverty (SDG 1) and provide living-wage work and economic growth (SDG 8) by supporting the creation of jobs of a new middle class in rural areas (including farmers). Women have the same rights and rewards as men in this system (SDG 5), with strong educational systems (SDG 4) supporting sustainable and healthy consumption patterns. While the majority of people live in urban areas, there are robust urban-rural relationships that insure food security for all urbanites and industries supply healthy processed and fresh foods, as well as appropriate, responsible technology required in the production, processing, storage, and movement of the food supply (SDG 9). Rural people can afford to purchase the food ~~their~~ farmers supply to cities. Advertising and market placement are skewed to promote healthy dietary patterns. This helps ensure both food and employment security – markedly reducing the threat of urban uprisings (SDG 16), aiding in sustainable city development (SDG 11), and reducing inequalities (SDG 10). Technical assistance, appropriate technology access, and incentive programs to produce and market food are equitable and increase the information and knowledge flow across the food value chain to all partners. The cycle of production and consumption is completed responsibly (SDG 12) with the use of renewable materials and energies as well as appropriate technology – available to all (SDG 7) – and making use of materials and practices that conserve fresh water and provide clean water (SDG 6). Our lands and waters are conserved and regenerated for humans as well as the flora and fauna we rely upon (SDG 14 & 15).). All of this ensures that our food systems do not contribute to increasing climate challenges – but rather acts as a tool for resolution and has successfully adapted to changing climatic conditions (SDG 13). This includes continuous public participation in policy and practices to improve these food systems as more is known and experienced. In other words, a network of food systems across the globe embedded in regions provide a strategy for securing a future for healthy people.

Appendix I: Survey Instrument

2050: Visions for Global Food Systems Transformation

Good day! We are a group of engaged researchers from Michigan State University, USA and TMG - Think Tank for Sustainability, Germany. We are hoping to enlist you in thinking about transformation of your regional (however you define it) and the global food system. Please read the following aspirational narrative concerning the global food system. Note that the Sustainable Development Goals that could be impacted are in (). Then please consider the questions that follow.

Let us start by imagining a future where all forms of malnutrition are eliminated (SDG 2) and we have achieved low levels of obesity/chronic disease globally, with greatly reduced levels of acute disease (SDG 3). A world composed of connected webs of cooperation across regions, insuring diversity, resiliency, and global communication (SDG 17). Food systems embedded in regions across the globe provide good livelihoods for those engaged in the production, processing, transportation, storage, and marketing of foods, as well as the management of compostable and reusable waste. The food system is doing its part to eliminate poverty (SDG 1) and provide work with livable wages and economic growth (SDG 8) by supporting the creation of jobs of a new middle class in rural areas. Women have the same rights and rewards as men in this system (SDG 5), with strong educational systems (SDG 4) supporting sustainable and healthy consumption patterns. While the majority of people live in urban areas, there are robust urban-rural relationships that insure food security for all urbanites and industries supply healthy processed and fresh foods, as well as appropriate, responsible technology required in the production, processing, storage, and movement of the food supply (SDG 9). Rural people can afford to purchase the food their farmers supply to cities. Advertising and market placement are skewed to promote healthy dietary patterns. This helps ensure both food and employment security – markedly reducing the threat of urban uprisings (SDG 16), aiding in sustainable city development (SDG 11), and reducing inequalities (SDG 10). Technical assistance and incentive programs to produce and market food are equitable and increase the information and knowledge flow across the food value chain to all partners. The cycle of production and consumption is completed responsibly (SDG 12) with the use of renewable materials and energies – available to all (SDG 7) – and making use of materials and practices that conserve fresh water and provide clean water (SDG 6). Our lands and waters are preserved for humans as well as the flora and fauna we rely upon (SDG 14 & 15).). All of this ensures that our global food system does not contribute to increasing climate challenges – but rather acts as a tool for resolution and has successfully adopted to changing climatic conditions (SDG 13). In other words, a network of food systems embedded in regions across the globe provide a strategy for securing a future for healthy people.

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We ask you to write briefly (need not be more than 2-3 sentences for each) on each of the following questions/statements to the degree you are able:

1. Define the boundaries of the community/region/locale you consider when you think about your food system.

2. Does the above description represent your vision for the food system in which you want to exist? If not, how would you modify this vision to better align with your own?

3. What are any major transformations that have already occurred in your region, either moving your food system toward or away from your vision (assuming it is not right now)?

4. What are up to four major transformations that would need to occur in your region for your food system to be moving toward your vision (assuming it is not right now)?

5. What are three things that most directly impede your ability to move your food system in this direction?

6. What are the three biggest environmental challenges in your community to making this happen?

7. What are the three biggest social challenges in your community to making this happen?

8. What are the three biggest political and economic challenges in your community to making this happen?

9. What aspects of the food system would you want to measure over time to determine whether the system is improving?

10. What are the things that keep your food system 'stuck' in its current state and keep it from providing more significant positive benefits?

11. What cultural and/or behavioral changes are needed in societies to support transformation?

12. What would you see as endpoints or conditions that would indicate/demonstrate improvement and/or success in moving towards this type of food system?