Food System
Vision Prize

A Nourishing, Regenerative Tomorrow

*What We Learned from 1,300
Future Food Systems Visions*

The ROCKEFELLER FOUNDATION

SECONDMUSE   openIDEO

2050

The Rockefeller Foundation announced the Food System Vision Prize in October 2019, issuing a call to disparate global food system actors to unite, source and support positive Visions for our future food systems.

History shows that systemic change requires shared direction, time, and collective effort. The purpose of the Food System Vision Prize was to light the way for populations across the globe to realize a more regenerative, nourishing, equitable, and sustainable future—a call even more poignant in the wake of the Covid-19 pandemic and the widespread reckoning on race, equity, and power in 2020.

More than 1,300 teams representing over 4,000 organizations (including non-governmental organizations, farmers' organizations, universities, governments, research institutes, and an array of private sector actors) submitted Visions rooted in the food systems of 119 countries. Visions were analyzed through an independent review performed by over 100 diverse judges, who selected 76 Semi-Finalists and then 10 Finalists. This report highlights the messages, points of convergence, and tensions that emerged from this powerful, diverse, and global chorus of actors championing for bold action and transformation within their food systems.

Through qualitative analysis of the 76 Semi-Finalist Visions, five specific, bold aspirations emerge that can guide the global community as it seeks the best way forward. These aspirations are a distillation of everything else that follows in this report: the challenges we are seeking to solve; the solutions that can lead the way; the values that underpin our visions for the future; the tensions we will need to navigate; and the broken connections we will need to repair. While the five aspirations are presented as distinct, they are not mutually exclusive, and individual Visions often reference two or more of these aspirations in tandem. Think of these as Visionaries' unifying North Stars; as ways to guide us across the ocean of uncertainty that separates the world we live in today from the world of 2050. These aspirations are what the Visionaries think our food systems can and should deliver.

Aspirations

Food As Community

In the future, when we eat, we will strengthen our connections with our loved ones, our friends, our neighbors, our local landscapes, our shared histories, and those who help bring our food from farm to plate.

Food as the New Economy

In the future, the exchange of goods and services related to food adds value and contributes to the vibrancy of our communities.

Food as Reconciliation

In the future, our food systems, and the choices we make within them, help to heal the wounds of the past.
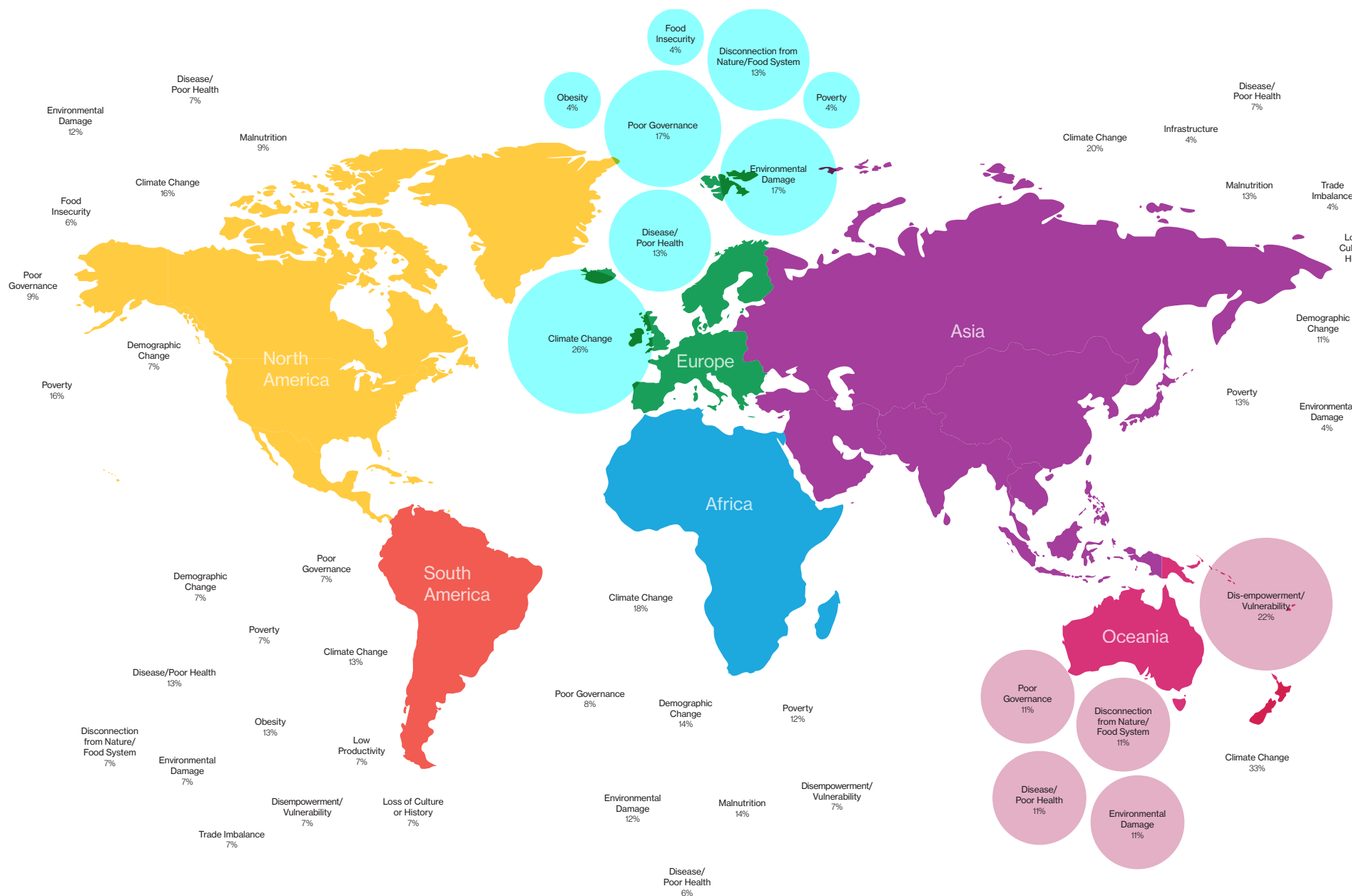
Food as Medicine

In the future, eating foods that are healthy for us — our bodies, our minds, and our communities — will be an affordable and desirable choice.

Food as Resilience

In the future, eating foods that are good for our planet – our soil, our water, and our atmosphere – will be affordable, accessible and desirable.

These aspirations are met by an array of solutions emerging into and transforming our food systems, as described on pages 14-21.

The variation in solutions reveals the difference in those challenges currently experienced within food systems that inspire Visionaries to advocate for specific solution sets. From climate change and malnutrition, to food insecurity and demographic change, the map on the next page features the top five challenges cited within Food System Visions aggregated by continent.

Challenges Inspiring Food Systems Solutions

North America

- Environmental Damage 12%
- Disease/Poor Health 7%
- Malnutrition 9%
- Climate Change 16%
- Food Insecurity 6%
- Poor Governance 9%
- Demographic Change 7%
- Poverty 16%

Europe

- Food Insecurity 4%
- Disconnection from Nature/Food System 13%
- Obesity 4%
- Poor Governance 17%
- Poverty 4%
- Environmental Damage 17%
- Disease/Poor Health 13%
- Climate Change 26%

South America

- Demographic Change 7%
- Poor Governance 7%
- Poverty 7%
- Climate Change 13%
- Disease/Poor Health 13%
- Obesity 13%
- Low Productivity 7%
- Disconnection from Nature/Food System 7%
- Environmental Damage 7%
- Disempowerment/Vulnerability 7%
- Loss of Culture or History 7%
- Trade Imbalance 7%

Africa

- Climate Change 18%
- Poor Governance 8%
- Demographic Change 14%
- Poverty 12%
- Environmental Damage 12%
- Malnutrition 14%
- Disempowerment/Vulnerability 7%
- Disease/Poor Health 6%

Asia

- Disease/Poor Health 7%
- Infrastructure 4%
- Climate Change 20%
- Malnutrition 13%
- Trade Imbalance 4%
- Lo Cul H
- Demographic Change 11%
- Poverty 13%
- Environmental Damage 4%

Oceania

- Dis-empowerment/Vulnerability 22%
- Poor Governance 11%
- Disconnection from Nature/Food System 11%
- Climate Change 33%
- Disease/Poor Health 11%
- Environmental Damage 11%

EXPLORE THE MAP

Tensions

While the Visions are ultimately rooted in hope, the Visionaries are aware of the tensions that could challenge their envisaged blueprints for transformation. The tensions noted below are among those consistently recognized by Visionaries as they balance the many complex trade-offs entailed in shifting food systems from the status quo:

What should be optimized for: food system efficiency or food quality?

Should our economic system prioritize support to farmer livelihoods; affordability for consumers; or the "true cost" of food (e.g., one that accounts for human health and environmental impacts)?

In the future, can the food systems within cities and rural areas both flourish equally, or should one take precedence?

Should animal agriculture be reimagined or eliminated?

Ultimately, the tug of war between these ideas plays out differently between the 1,300+ Visions for 2050 food systems. The question is this: in the future, will these tensions be reconciled at a global level or will the battlefront continue to remain regional?

What Will Drive Systems Change?

While prizes for innovation are common across philanthropy, government, and private sector, the Food System Vision Prize was unique for its emphasis on systems change. Visionaries were explicitly encouraged to deploy systems thinking to identify how their challenges are interrelated, and how their solutions can target their multi-faceted, interconnected food systems in a way that delivers transformational change.

A qualitative analysis focused on the 76 Semi-Finalist Food System Visions reveals how Visionaries use systems thinking and gives insights into the systems change strategies that they promote. The six following archetypes emerge to show how Visionaries foresee change occurring at a systemic level:

1. **Scalable Disruptions**
   A small, impactful change disrupts the status quo and then scales to the point where it transforms the system entirely.

2. **Collaborative Changemaking**
   Conditions are created that accelerate relationship formation sufficient to mobilize a movement.

3. **Cultivating Mass Conscientiousness**
   Individual behavior change is incentivized and harnessed as the driving force for systems change.

4. **Changing the Rules of the System**
   New policies and norms shifts the system's behavior.

5. **Push and Pull**
   A combination of policy pushes and pull strategies from the grassroots succeeds in ushering in systems change.

6. **Playing a New Game**
   Calls to build a new system, governed by new rules are answered by stakeholders who self-select to participate in the system, which exists in parallel to the status quo, eventually outperforming the existing system.

The 1300+ Food System Visions issue an invitation to each of us:

What future do you seek?
What future do you choose?
What future do you stand for?

We each have a role in shaping tomorrow. These Visions are North Stars that can guide us to drive needed changes in the way we produce, distribute, manage, consume, regulate, and govern food.

What happens next depends on each of us joining the Visionaries' call for systems change.

About the Prize and Analysis

01

The Start of a Movement

Before the notion of a global Food Systems Summit originated in early 2020 — and before Covid-19 ravaged not just the global health and economic systems, but also the global food system — an idea was born.

What if an invitation could be issued to the world's food systems' stakeholders to describe their bold, inspirational and transformative ideas for the year 2050? Recognizing that for far too long, human depictions of the future have bent toward the dystopian (think "Blade Runner", "Mad Max", or "World War Z"), the Prize would invite people everywhere to describe the food systems they hoped for and believed could be feasible if we "get it [technology, policy, collaboration, incentives, etc.] right." The prize wouldn't be an invitation to depict utopia; the rules of power, money, human behavior, and culture, science still apply. Rather, it would be an invitation to describe specific, local food systems as stakeholders hoped they would emerge, inclusive of the action plans to achieve them.

In October 2019, The Rockefeller Foundation's Food System Vision Prize was announced, issuing a call to disparate global food system actors to unite, source, and support positive Visions for our future food systems.

Because envisioning a global food system for 2050 is a massive and vastly complex undertaking, the Prize focused on reimagining regional or local food systems. By "system," we mean the interconnected actors, enabling environment, and linkages that relate to food in a particular Place. Beyond a value chain or supply chain, a food system considers a number of critical factors – political, social, environmental, cultural, technological, dietary, etc. – that influence every dimension of food from production to consumption.

History shows that systemic change requires shared direction, time, and collective effort. The purpose of the Food System Vision Prize was to light the way for populations across the globe to realize a more regenerative, nourishing, equitable, and sustainable future—a call even more poignant in the wake of Covid-19's destruction and the reckoning on race, equity, and power rippling across the world in 2020.

The Prize was launched with the support of ten strategic partner organizations including the Food and Land Use Coalition (FOLU), African Women in Agriculture Research and Development (AWARD), Thought for Food (TFF), Slow Food International, Global Alliance for the Future of Food (GAFF), and Food Tank. Additionally, we collaborated with two key implementing partners: OpenIDEO and SecondMuse. Designing the Prize began with a Values Articulation exercise, followed by deep analysis of the Themes in which food systems exhibit both challenges and opportunities for transformation. Judging Criteria were then established before the Prize call was issued to organizations everywhere seeking to build their vision for the future.

Submissions to the Food System Vision Prize were analyzed through an independent review performed by over 100 Judges with a wide diversity of expertise and who hailed from all over the world. Then, analysts and The Rockefeller Foundation's expert team conducted qualitative coding and data analysis to help better understand the core messages emerging from this unique set of ideas. This report highlights the signals, the points of convergence and tensions emerging from this powerful dataset.

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THEMES

🌱 **Environment**

🍲 **Diet**

💰 **Economics**

♡ **Culture**

🖥 **Technology**

🗐 **Policy**

—

VALUES

Renewability
Resilience
Equity
Diversity
Healthfulness
Interconnectedness

—

JUDGING CRITERIA

Systems-Focused

Systems Focused Visions that are infused with a systems-focused approach will illustrate how food system Themes—Economics, Diet, Technology, Policy, Culture, Environment—are interconnected and influence one another within the specific system described.

Transformative Potential

Visions with the potential to positively shift the food system in a chosen Place. A Vision with transformative potential is game-changing in terms of the structure, norms, and standards of today. It takes us out of the current state, and launches us into a new reality. It forces us to anticipate what could go wrong, and plan appropriate responses.

Community-informed

Community Informed Community-informed Visions are focused on the uniqueness of a particular Place. They show a deep level of understanding of both the Place (natural characteristics) and its People (the communities within the place). To be community-informed means to demonstrate knowledge of the challenges that face an area and its diverse food system participants (stakeholders), and to propose a hopeful future that addresses these challenges.

Inspiring

Inspiring An inspiring Vision has the potential to ignite a movement. It leverages compelling storytelling to mobilize diverse stakeholders to rally and unite behind it. It compels others to think, connect, and act.
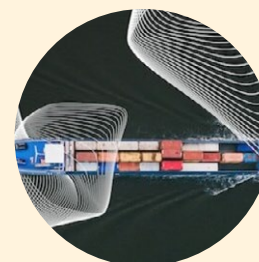
Feasible

Used in the second round of scoring only In the second phase, bold, feasible Visions include an articulation of the concrete and actionable solutions needed to make the Vision a reality by 2050 in a particular Place. They are informed by quantitative and qualitative data, and are grounded in future trends, projections, and local insights. They describe a credible pathway for realization in the future.

Community Co-Created

Used in the second round of scoring onlyIn the second phase, Community Co-created Visions are informed and developed through consulting with various sectors and people representing different areas of expertise and demographic groups. Visionaries are encouraged to engage multiple stakeholders (e.g., farmers, businesses, researchers, policymakers, food service workers, etc.) and collaborate with them to integrate their views and perspectives into the Vision. Additional consideration given to Visions that represent a minimum of two or more distinct stakeholders with deep knowledge of and familiarity with the selected Place (e.g., a research institute collaborating with a farmer business organization and a city's food policy advisory group).

By the Numbers:
Who are the Visionaries?

Participant teams (Visionaries) represent a diverse cross-section of thinkers and doers from around the world. While there were some differences between the full dataset and the group that were selected as Semi-Finalists, both maintained a high degree of diversity in terms of the Places and organizations represented.
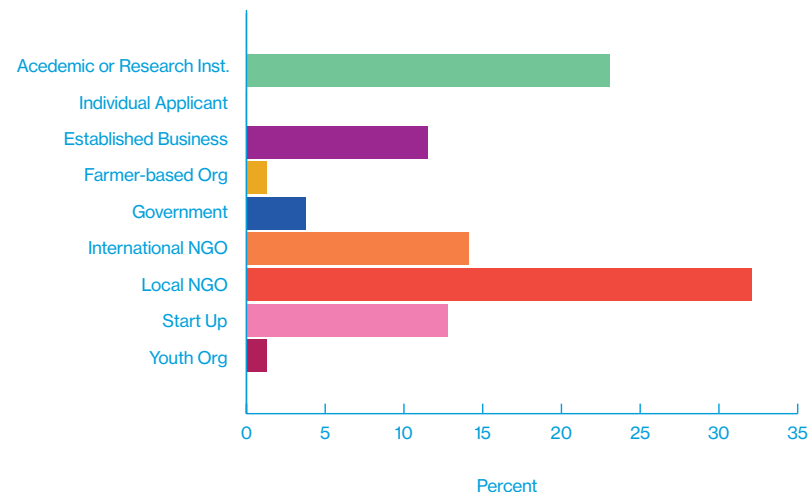
Local NGO's constitute the stakeholder type most frequently represented on Visionary teams, **leading 30% of submitted Visions in round 1 and further increasing in round 2**.

Lead Organization Type
"Full dataset" refers to the ~760 visions deemed complete and sent to judges / analysts for review

Semi-Finalists

9
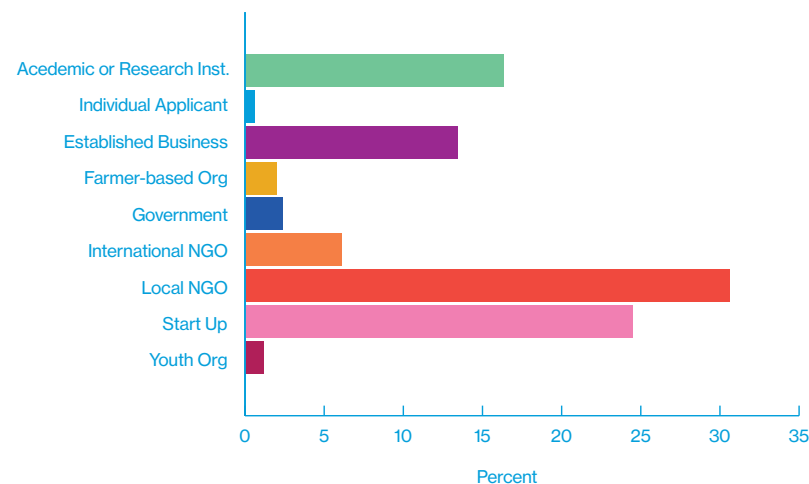
Geography of 76 Semi-Finalist Visions
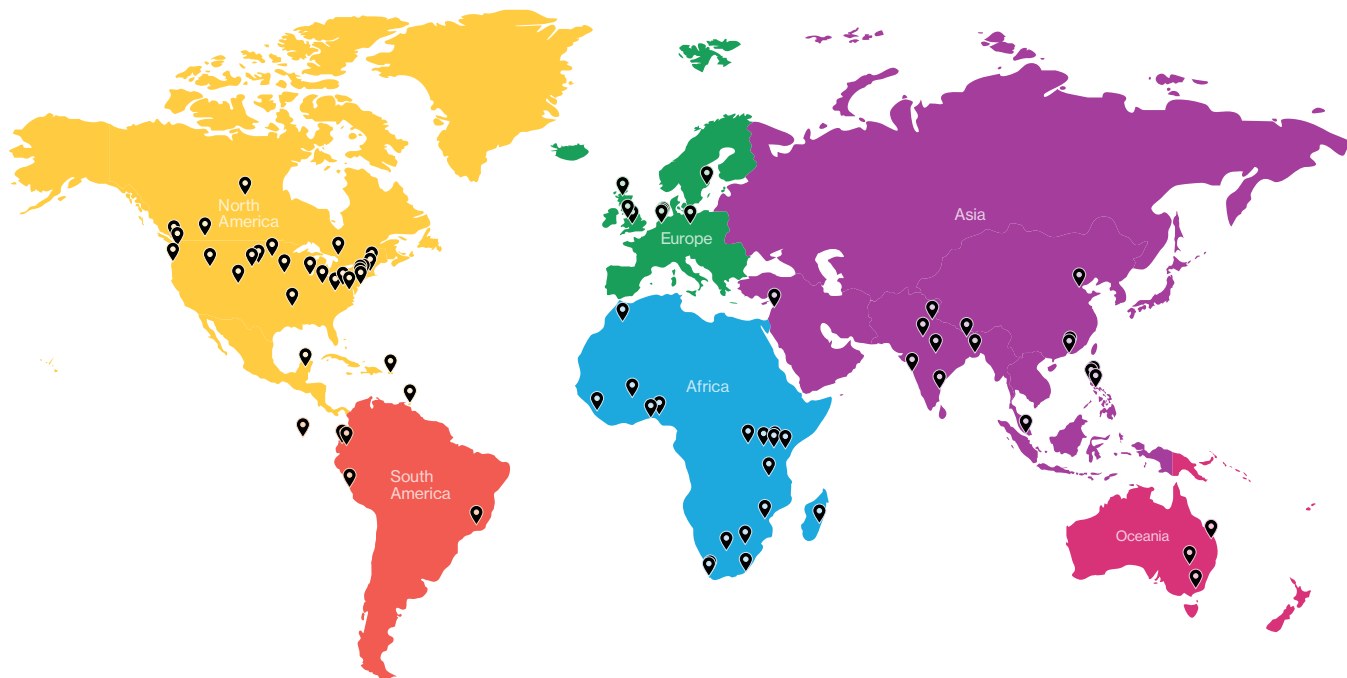
The Food System Vision Prize attracted more than 1,300 Submissions from all over the world. The 76 Semi-Finalist Vision teams are shown across the six continents of Africa, Asia, Europe, North America, Oceania, and South America as pin markers on the map.

While there are some ideas about why the proportion of Visions from Africa dropped as the Prize moved to the Semi-Finalist stage (see note on bias in Appendix), the cohort of judges were comparatively representative of the Visions' geographies.
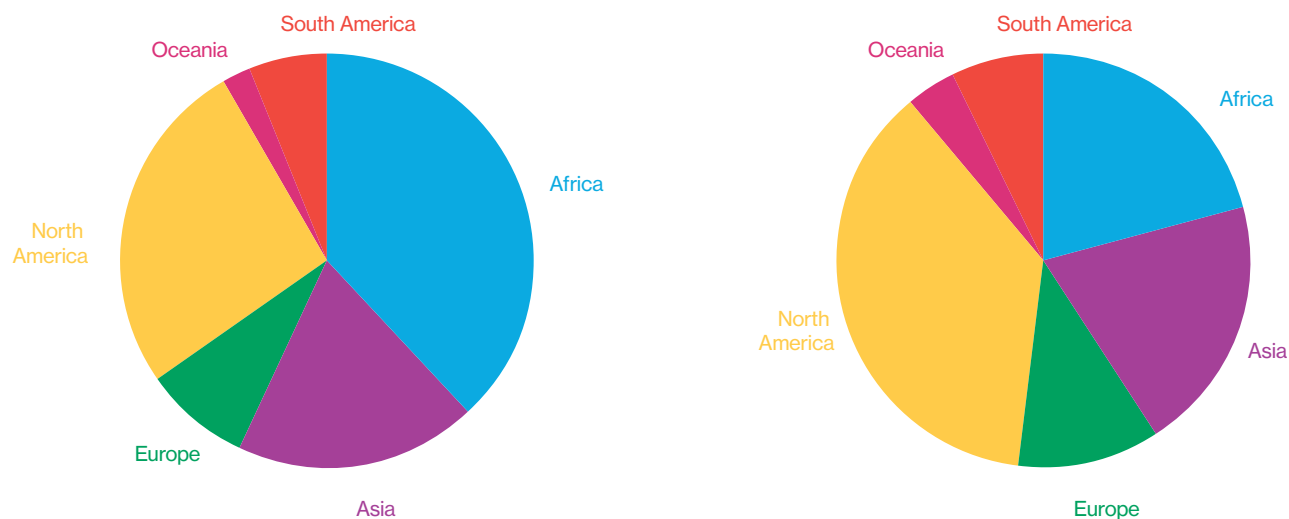
Geography of 760 Visions

Geography of 76 Semi-Finalist Visions

Teams in the Prize were Made Up of Every Type of Stakeholder

One of the most interesting quantitative differences between the Semi-Finalist dataset and the overall dataset was their demonstrated ability to bring more and diverse partners into the Vision creation process. These statistics show that 47% of the Semi-Finalist Visionary teams are composed of five or more organizations, a jump from 33% of teams boasting five or more stakeholder groups in the first round of competition.

Image Submitted by: Eat Right India, India

Note that the majority of submissions were made up of multi-stakeholder coalitions. This graph just focuses on the Lead Applicants.

Org Type	Percent
Small Company (under 50 employees)	37% (482)
Small NGO (under 50 employees)	24% (316)
Research Institution	11% (148)
Others	7% (96)
Farmer, Farming Co-operative	6% (74)
Large NGO (over 50 employees)	6% (73)
Government Institution	4% (50)
Youth Organization	2% (32)
Large Company (over 50 employees)	2% (26)
Investor	1% (12)
Media Outlet	<1% (6)

Insight

Organizations large and small, farmer co-ops, youth organizations, governments, research institutions, investors, and more make up the ten stakeholder types submitting to the Prize. Not only that, but even more were part of the Prize: joining teams or contributing in other ways.

Covid-19 Mentions in Semi-Finalist Visions

Given the turbulence sparked by the Covid-19 pandemic and the shockwaves it unleashed on health, food, economic, education and political systems, Visionary teams confronted the upended reality in the context of their work. As Semi-Finalists deepened their Visions, many teams let the Covid-19 pandemic shape their Visions for the future and spark a sense of urgency and importance to the work of future-casting. While some teams stuck to their initial ideas, many sought to adapt their Visions in light of what Covid-19 revealed to them about the inadequacies of their food system, and the opportunities that it might present.

53%

Mention Covid-19 explicitly

47%

Does not mention
Covid-19 explicitly

First Round

1,300+
Visions

119
Countries

4,000
Organizations from civil society, research, industry, and government

Second Round

76
Semi-Finalists

27
Countries

Third Round

10
Finalists

8
Countries

Participant teams (Visionaries) represent a diverse cross-section of thinkers and doers from around the world. While there were some differences between the full dataset and the group that were selected as Semi-Finalists, both maintained a high degree of diversity in terms of the Places and organizations represented.

Food System Vision Prize

Envisioning Regenerative and Nourishing Food Futures for 2050 Data Report

Aspirations

for 2050 Food Systems Transformation

02

Transforming our food systems has become a rallying cry

The 2020 report on the State of Food Security and Nutrition in the World notes:

"We face the challenge of transforming food systems to ensure that no one is constrained by the high prices of nutritious foods or the lack of income to afford a healthy diet, while we ensure that food production and consumption contribute to environmental sustainability. However, there is no one-size-fits-all solution for countries, and policymakers will need to assess the context-specific barriers, manage trade-offs and maximize synergies – such as potential environment gains – to achieve the required transformations."

The Visions analyzed echo this sentiment, boasting rich portrayals of possible tomorrows that reflect the diversity of contexts the Visionaries represent. But while each anchors their ideas for change to the specific Place in which their system is located, some unifying Themes emerged. Through qualitative analysis of the 76 Semi-Finalist Visions, five specific, bold aspirations became apparent that can guide the global community as it seeks the best way forward.

These aspirations are a combination of everything else that follows in this report: the challenges we are seeking to solve, the solutions that can lead the way, the values that underpin our visions for the future, the tensions we will need to navigate, and the broken connections we will need to repair. While the five aspirations are presented as distinct, they are not mutually exclusive, and individual Visions often reference two or more of these aspirations in tandem.

Think of these as our Visionaries' unifying North Stars; as ways to guide us across the ocean of uncertainty that separates the world we live in today from the world of 2050.

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These aspirations are what the Visionaries think our food systems can and should deliver.

Image Submitted by: Food Innovation Nervecenter

Image Submitted by: Stone Barns Center

Aspirations

Food as Community

In the future, when we eat, we will strengthen our connections with our loved ones, our friends, our neighbors, our local landscapes, our shared histories, and those who help bring our food from farm to plate.

This aspiration for the future is rooted in the belief that uniting around food is the most important step that we can take to reverse the degeneration of people and our planet.

In our food futures, new and diverse places may emerge where we grow, process, and prepare food with our neighbors (example <u>Vision: Liverpool, UK Regional Economy</u>). Native practices like songlines and oral histories, which weave together people and the land, may be revived (example <u>Vision: Australia Indigenous Food Security</u>). Renewed commitments may be made to the preservation of keystone species (example <u>Vision: Salish Sea, USA</u>). A restored connection to our spirituality and faith, whether in religious institutions or in belief systems underpinned by our shared humanity, may emerge (example <u>Vision: Nairobi Cool Waters</u>).

While the aspiration of Food as Community centers on the connections within and between people and culture, it is hoped that these connections can drive deep and meaningful changes in all aspects of our food systems. For example, our health, economy, and environment would all benefit from deeper, more intentional connections to food.

Some top solutions for the aspiration of Food as Community put forward by our Visionaries are to:

1. Develop and support community-owned food system assets (e.g. food hubs, education centers, regenerative community food gardens, etc.)

2. Preserve biodiversity through farming and landscapes

3. Protect, share, and create recipes

4. Connect to the spirituality and meaning in our food and agriculture

5. Drive shifts in consumer preferences toward more nourishing foods that connect to our ancestors and our cultural traditions.

Image Submitted by: Farms Not Arms

Aspirations

Food as the New Economy

In the future, the exchange of goods and services related to food adds value and contributes to the vibrancy of our communities.

This aspiration of Food as the New Economy is rooted in recognition of the precarious way that the current food economy is organized, and that changing the economics driving how food is grown, processed, and sold is a necessary task of our generation. The most important message of this aspiration is that the food economy needs to put people – their health, wellbeing, and dignity – over profit and efficiency.

For the environmentally-oriented Visionaries, suggestions like alternative currencies and payment for ecosystem services emerge (example Vision: Southwest Canada Bioregional Food System). For communities-focused Visionaries, their ideas address how new economic models could be used to create new opportunities in work and for human connection (example Vision: Berlin Supergardens). Also emerging in several Visions are True Cost Accounting principles in which the costs to human and planetary health are integrated into the price of food (example Vision: Beijing Food Hubs).

While this aspiration is focused on reimagining the way that value is exchanged, the main objective is to integrate a broader conception of value itself into our food systems to better reflect what we care about.

Some top solutions for the aspiration of Food as the New Economy are to:

1. Develop job creation models and advance new types and modes of 'work'

2. Establish more holistic food pricing that accounts for various foods' harms and benefits to human health and the environment

3. Make healthy foods affordable and accessible

4. Recycle, upcycle, or re-use agricultural/supply chain waste

5. Remake the food or retail environment to promote healthier eating

6. Change regulations for farmers and industry to advance sustainability and accountability

Image Submitted by: 7Gen Food System

Aspirations

Food as Reconciliation

In the future, our food systems, and the choices we make within them, help to heal the wounds of the past.

This aspiration acknowledges the structural inequities built into our food systems: that marginalized groups (due to race, ethnicity, sexual orientation, gender, religion, and more) often face the greatest barriers to economic opportunities in our food systems and to accessing healthy diets. The aspiration of Food as Reconciliation is best encapsulated by a greater focus on understanding the inequities, exploitation, and transgressions in our pasts and how we can facilitate a more equitable and just future.

Food as Reconciliation manifests differently depending on place and context. For example, Visionaries across the world propose the reinvigoration of traditional practices for land management and learning (example Vision: Ladakh, India Self Sufficiency). In the Washington, DC Food Economy Vision, the team identifies storytelling as a way to bring people together and bridge divides, focusing on food as an entry point for conversations about difficult topics. In North America, Native Visionaries propose economic models (both business and financing) that will help create access and opportunity (example Vision: 7Gen Food System).

Some top solutions for the aspiration of Food as Reconciliation are to:

1. Promote and preserve knowledge and values from Indigenous practices

2. Address malnutrition or undernutrition of target population(s)

3. Advocate for human rights, social justice, or food sovereignty

4. Develop participatory governance strategies within food systems and between them and other systems (e.g. education, health, financial systems.)

5. Change or reform land ownership policy

Image Submitted by: Arakunomics

Aspirations

Food as Medicine

In the future, eating foods that are healthy for us – our bodies, our minds, and our communities – will be an affordable and desirable choice.

This aspiration reflects the chorus of voices calling out the industrial food system for its adverse effects on human health. Food as Medicine blends the traditional wisdom of various cultures with the latest scientific understanding of how food and the human body interact.

Many cultures around the world rely on traditional plant-based medicinal practices. Several Visions propose a return to these traditions, with the added benefit of technology to help us determine the function of various foods and/or plants that ancestral peoples previously came to understand through trial, error, and intuition (example Vision: Mumbai Local Food Loops). Other Visionaries focus on how data collection and analysis could be used to create individualized dietary programs (example Vision: Rwenzori Mountains Malnutrition). Lastly, Visionaries look at the integration of food and nutrition in modern medical systems, such as through more robust nutrition education for physicians, or prescribing fresh produce (fruits and vegetables) as a means of illness prevention (example Vision: New Jersey, USA Ethos Farm).

While the mechanism for the aspiration of Food as Medicine will vary by context, the message is consistent: our future food system can and must do a better job of protecting and advancing human health.

Some top solutions for the aspiration of Food as Medicine are to:

1. Incentivize behavior change for better diets

2. Prioritize micronutrient-rich foods and technologies

3. Promote and preserve traditional knowledge from Indigenous practices

4. Change subsidies to promote regenerative agriculture and healthy foods

5. Create personalized nutrition programs

Image Submitted by: Good Food Fund

Aspirations

Food as Resilience

In the future, our production practices and consumer demands will shift to become nature positive, operating under planetary boundaries.

The aspiration of Food as Resilience takes aim at the world's climate and environmental crisis. Soil erosion, pollution, loss of biodiversity, and industrial farming are major issues affecting our planet and are rooted in the practices and policies of our approach to our food systems.

Several Visionaries look at the relationship between our societies and the natural resources we rely upon. As one noted, the world has a limited supply of arable land, and as populations grow and land becomes more precious, our diets must adjust to this reality (example Vision: Stockholm Circular Pantry). Another Visionary states that the hectare as it is currently conceived was created for farm subdivisions, whereas a differently sized plot is capable of providing more connectivity for biodiverse species (example Vision: Regenerating the Ancient Mayan Food Network). Separately, payment for ecosystem services is an idea that appears in several Visions. Ideas for nature-positive food systems range from paying farmers for managing non-cropped lands, to tracking the amount of carbon stored in the soil (example Vision: Quezon, Philippines: Rebuilding Rural Paradise).

While Visionaries are aligned in their belief that the current relationship between our food systems and the environment must change, they vary in their thinking about how to move forward; some Visionaries believe that consumers must send the signal for change, others think that farmers must be engaged around regenerative and profitable practices, and still others believe that the government must play a role in incentivizing and scaling up any changes.

Some top solutions for the aspiration of Food as Resilience are to:

1. Use land more sustainably

2. Promote soil health

3. Manage water resources more sustainably

4. Improve environmental protection policies

5. Develop and advance circular economy models

Food System Challenges

03

The Food System Vision Prize attracted more than 1,300 submissions from 119 countries. Challenges described in these Visions vary by region.

In the map that follows, the five most common challenges to achieving teams' Visions of change are shown by continent (where there are multiple challenges equally represented among the Visions by continent, these challenges are counted as one of the five). For a deeper look at the data set, please visit this underline dashboard to explore the data featured in this report in an interactive way, including looking into the five most common challenges and solution sets by continent.

Through a sample reading of ten percent of the full dataset of 1,300+ submitted Visions, 17 challenge categories emerged that were tracked each time they were mentioned. Note: given the method used and the number of Visions included in the sample, the analyst team is confident this provides a fair representation of the whole of the submissions.

North America

Environmental Damage 12%

Disease/ Poor Health 7%

Malnutrition 9%

Climate Change 16%

Food Insecurity 6%

Poor Governance 9%

Demographic Change 7%

Poverty 16%

Europe

Food Insecurity 4%

Disconnection from Nature/Food System 13%

Obesity 4%

Poor Governance 17%

Poverty 4%

Environmental Damage 17%

Disease/ Poor Health 13%

Climate Change 26%

Asia

Climate Change 20%

Loss of Culture or History 4%

Disease/ Poor Health 7%

Malnutrition 13%

Trade Imbalance 4%

Infrastructure 4%

Demographic Change 11%

Poverty 13%

Environmental Damage 4%

South America

Demographic Change 7%

Poor Governance 7%

Poverty 7%

Climate Change 13%

Disease/Poor Health 13%

Obesity 13%

Low Productivity 7%

Disconnection from Nature/ Food System 7%

Environmental Damage 7%

Trade Imbalance 7%

Disempowerment/ Vulnerability 7%

Loss of Culture or History 7%

Africa

Climate Change 18%

Poor Governance 8%

Demographic Change 14%

Poverty 12%

Environmental Damage 12%

Malnutrition 14%

Disempowerment/ Vulnerability 7%

Disease/ Poor Health 6%

Oceania

Dis-empowerment/ Vulnerability 22%

Poor Governance 11%

Disconnection from Nature/ Food System 11%

Climate Change 33%

Disease/ Poor Health 11%

Environmental Damage 11%

Top Challenges

Ranked by Frequency:

1. Environmental Degradation
2. Climate Change
3. Poverty
4. Malnutrition
5. Food Insecurity
6. Disease/Poor Health
7. Demographic Change
8. Disempowerment of Marginalized Groups
9. Obesity
10. Food Waste
11. Low Productivity
12. Poor Governance
13. Loss of Culture/History
14. Disconnection from the Food System
15. Financial Exclusion
16. Poor Infrastructure
17. Conflict or Violence

While many conclusions can be made about these challenges, three in particular stand out:
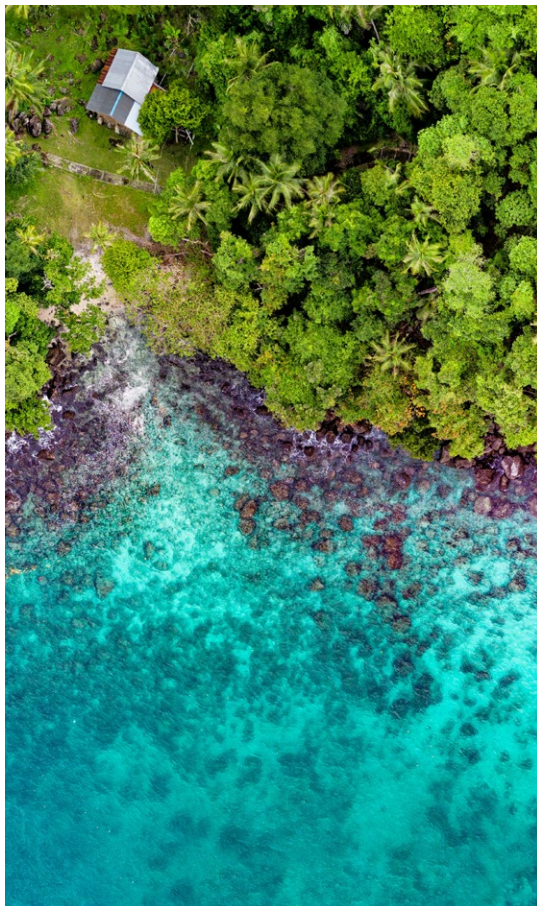
01
We have failed — globally and locally — to steward our natural resource base.

Climate change and environmental degradation in the forms of contaminated water, deforestation, and eroded soil are the most commonly noted challenges cited by the Visionaries. While outside actors are sometimes blamed for the damage, environmental degradation is more frequently described as a collective failure by local communities to protect the richness of their natural resource base. Environmental exploitation is sometimes explained as a coping strategy within vulnerable communities that have little else to support their livelihoods.

Other Visionaries point to most people's disconnection from food production as an enabling condition that has allowed us to consume unconsciously. They argue that this has made us unaware of the impact of our choices on the landscape and the broader ecosystem. Several Visions note that climate change introduces greater variability in temperatures and rainfall, exacerbating natural hazards like wildfires and storms, and altering baseline conditions through rising sea levels and reduced freshwater availability.

02
Poverty and structural discrimination harm our bodies and our communities.

While undernutrition (stunting, wasting, micronutrient deficiencies) and food insecurity are ranked higher than disease, poor health, and obesity, all four are included in the top ten challenges across geographies. Across economic contexts, poverty is described as the root cause of these challenges. In low-resource economies, chronic undernutrition and food insecurity are described as the result of low incomes, low productivity, and at times, financial exclusion; people simply cannot buy or produce enough healthy food to eat.

In middle-income countries, both undernutrition and overnutrition are often described together as co-existing phenomena. Poor, rural, and food-producing communities often struggle to grow enough food. Meanwhile, more urban populations strain to access highly nutritious foods, and often rely on cheap and ultra-processed foods that are widely available.

Finally, in high-income countries, poor, urban consumers (often indigenous and/or marginalized communities) often struggle with obesogenic food environments and limited access to healthcare, resulting in higher levels of noncommunicable diet-related diseases. Multiple Visionaries note that historical and structural racism is at the root of multigenerational poverty among indigenous and minority communities in many food systems.

03
Public policies are too often outdated, top-down, and not relevant to local contexts.

Visions often describe public policies that are misaligned to healthy food system goals (e.g., subsidies toward foods that disproportionately contribute to poor health). Similarly, infrastructure is often described as lacking the public support and resources needed for maintenance. In some cases, regions that have experienced significant conflict or war describe a lack of capabilities to restore necessary infrastructure needed for food systems transformation like roads and power. In such cases, national level policies are seen as misaligned or outdated, focusing on priorities such as the productivity of staple grains rather than of whole grains, nourishing crops, or resilient, biodiverse food landscapes.

Other challenges include heavy subsidizing of crops that contribute to health problems; lack of land rights for indigenous communities; and trade policies that have unintended negative consequences, which is highlighted further by Semi-Finalists who refined their Visions during the pandemic. Many Visionaries propose the creation of participatory city, county, and state-level governance mechanisms to better integrate policies across oft-siloed domains pertinent to food systems.

Africa
(18 Visions)

Climate Change	18%
Demographic Change	14%
Malnutrition	14%
Environmental Damage	12%
Poverty	12%
Poor Governance	8%
Dis-empowerment/ Vulnerability	6%
Disease/Poor Health	6%

Asia
(15 Visions)

Climate Change	20%
Malnutrition	13%
Poverty	13%
Demographic Change	11%
Disease/Poor Health	7%
Environmental Damage	4%
Infrastructure	4%
Loss of Culture or History	4%
Trade Imbalance	4%

Europe
(8 Visions)

Climate Change	26%
Environmental Damage	17%
Poor Governance	17%
Disconnection from Nature/ Food System	13%
Disease/Poor Health	13%
Food Insecurity	4%
Obesity	4%
Poverty	4%

North America
(27 Visions)

Climate Change	16%
Poverty	16%
Environmental Damage	12%
Malnutrition	9%
Poor Governance	9%
Demographic Change	7%
Disease/Poor Health	7%
Food Insecurity	6%

Oceania
(3 Visions)

Climate Change	33%
Dis-empowerment/ Vulnerability	22%
Disconnection from Nature/ Food System	11%
Disease/Poor Health	11%
Environmental Damage	11%
Poor Governance	11%

South America
(5 Visions)

Climate Change	13%
Disease/Poor Health	13%
Obesity	13%
Demographic Change	7%
Dis-empowerment/ Vulnerability	7%
Disconnection from Nature/ Food System	7%
Environmental Damage	7%
Loss of Culture or History	7%
Low Productivity	7%
Poor Governance	7%
Poverty	7%
Trade Imbalance	7%

Top Challenges Addressed

Zeroing in on the 76 Semi-Finalists, in the tables above, the five most common challenges to achieving Visionaries' aspirations for change are presented by continent along with the percentage of Visions that the challenge appears in (where there are multiple challenges equally represented among the Visions by continent, these challenges are counted as one of the five).

Addressing the Challenges

Central to the power of the Food System Vision Prize is the inspiration, hope, and signaling provided by the envisaged solutions illustrated by the teams. Visionaries propose a range of solutions to address the challenges they identified in their food systems. Some solutions appear repeatedly, while others are more innovative outliers.

The analysis sorts these solutions into four categories, parsed by the degree of consensus across Visions:
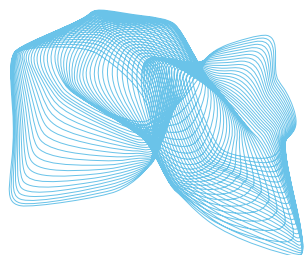
**01
Tidal Waves**

Widespread Consensus
100+ Visions
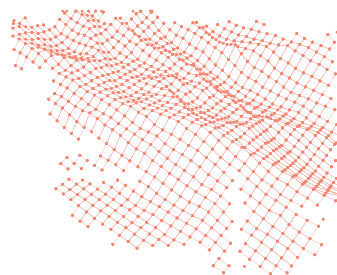
**02
High Water Marks**

Strong Convergence
50-99 Visions
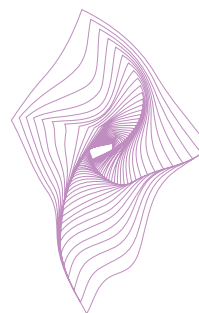
**03
Cresting Waves**

Growing Confidence
20-49 Visions
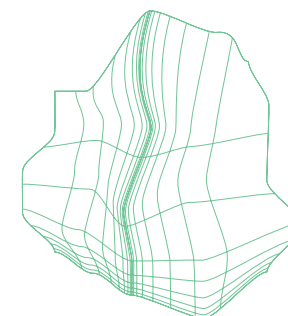
**04
Small Ripples**

Early Signals of Change
<15 Visions

Tidal Waves

100+ Visions

This category includes a small number of solutions that are referenced so frequently that their acceptance is nearly universal among Visionaries. These solutions are regarded as critical to realizing a more nourishing and regenerative food system across a range of contexts. However, there is a diversity of approaches as to how these solutions might be adopted across varying food systems.

Solutions highlighted in **blue** are championed by a third or more of the teams, while the rest are referenced by 15% or more of the Visions.

Environment
- › **Promote soil health**
- › Recycle, upcycle, or re-use agricultural/supply chain waste
- › Use land more sustainably
- › Preserve biodiversity through farming and landscapes
- › Manage water resources more sustainably
- › Prioritize food systems in urban design & landscape architecture

Diet
- › **Incentivize behavior change for better diets**
- › Address malnutrition or undernutrition of target population(s)
- › Alter food or retail environments to promote healthier eating
- › Prioritize micronutrient-rich foods and technologies

Economics
- › **Make healthy foods affordable and accessible**
- › Expand income-generation schemes in food and agriculture

Culture
- › **Scale-up food and agriculture education**
- › Develop and support community-owned food system assets
- › Organize and support farmers' organizations
- › Protect, share, and create recipes

Technology
- › Analyze and apply food systems data to solve problems
- › Promote mobile and internet-enabled solutions (e.g. specific apps, rural internet connectivity promotion)

Policy
- › Improve environmental protection policies
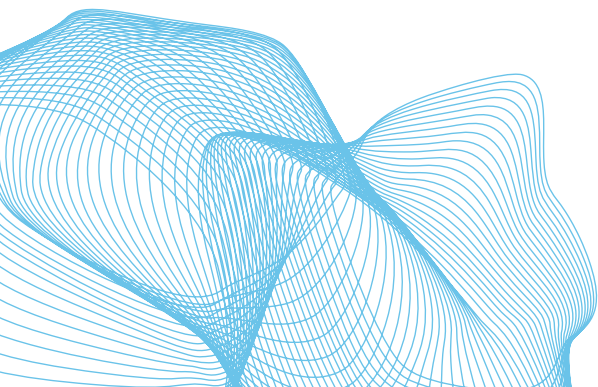
High Water Marks

50-99 Visions

These solutions are strongly championed by the Visionaries, but are far from universally applied (they feature in roughly 5-15% of Visions). These strategies seem to hold promise across many geographies and food system types.
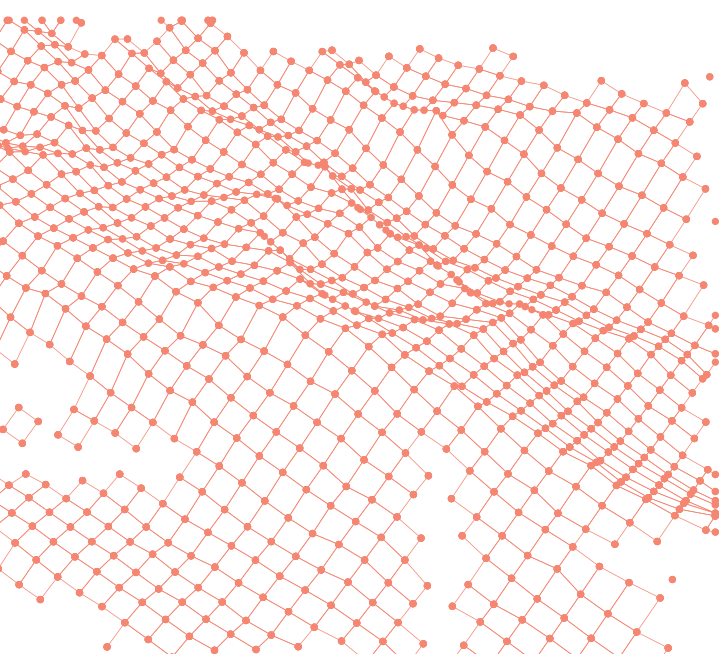
Environment
- › Promote agroforestry solutions
- › Re-imagine animal agriculture
- › Control pests and/or diseases through natural or sustainable approaches

Diet
- › Innovate how school and other institutional meals are procured and provided
- › Improve food processing and preservation
- › Repurpose food waste

Economics
- › Develop and advance circular economy models
- › Reduce food miles traveled
- › Drive shifts in consumer preferences for healthy food
- › Develop job creation schemes and advance new types of 'work'
- › Increase access to financial services
- › Reduce costs of food production

Culture
- › Promote and preserve traditional knowledge and values gained through Indigenous practices
- › Advocate for human rights, social justice, or food sovereignty
- › Connect to the spirituality and meaning in our food and agriculture

Technology
- › Develop or promote indoor agriculture (e.g., hydroponics, aquaponics)
- › Develop or promote technology-enhanced food distribution systems
- › Develop or promote solar or other renewable energy innovations
- › Develop or promote artificial intelligence-enabled solutions to food system challenges
- › Deploy precision-growing techniques
- › Deploy smart sensor innovations

Policy
- › Create or revise urban agriculture policies
- › Address policies beyond agriculture that impact food systems (e.g., power/electrification, health, education, water, or roads)

Cresting Waves

20-49 Visions

Solutions in this category are either growing in prominence across many geographies, or are highly applicable in specific, but not all, food systems. For example, a focus on fisheries management is important among coastal teams but makes little sense in an arid context. Similarly, the need to reduce animal protein intake emerges with greater frequency in North America and Europe.
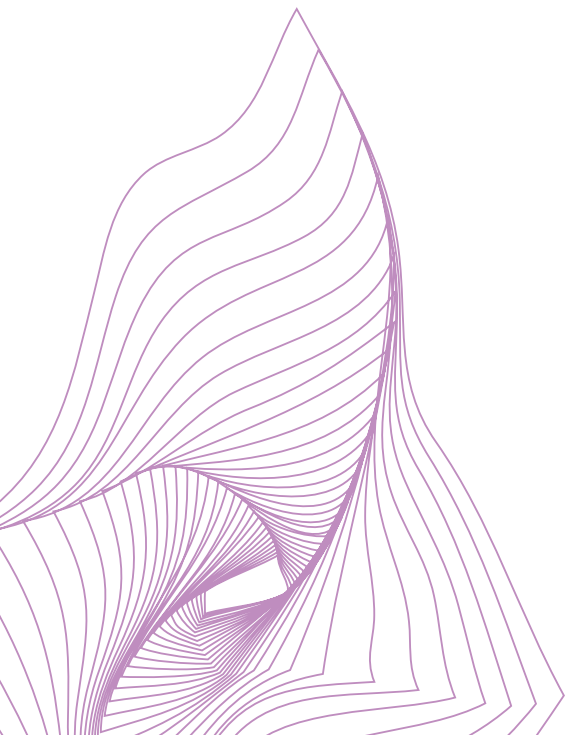
Environment
› Develop and disseminate innovative aquaculture solutions
› Manage fisheries more sustainably
› Promote and protect pollinator health

Diet
› Reduce animal protein intake
› Create personalized nutrition programs
› Improve food safety

Economics
› Develop and advance sharing economy business models
› Develop and advance markets for ecosystem services
› Promote sustainable agri-tourism

Culture
› Promote exchange of intergenerational knowledge and experiences
› Promote mental health awareness within food systems
› Build awareness around animal welfare
› Organize and mobilize communities for change

Technology
› Improve and promote agricultural mechanization
› Innovate sustainable packaging and waste management
› Develop and promote traceability technology
› Advance Internet of Things (IOT) for agriculture and food systems
› Advance plant breeding science
› Develop robotics and drone technology for agriculture and food systems
› Develop and advance blockchain solutions

Policy
› Develop participatory governance strategies
› Change subsidies to promote regenerative agriculture and healthy foods
› Change regulations of farmers and industry to advance sustainability and accountability
› Invest in and support publicly-backed markets for ecosystem services
› Invest in and support public extension programs
› Advance food labeling and traceability policies
› Change the tax code to incentivize sustainability and accountability
› Change or reform land ownership policy
› Advance policies for regional integration and cooperation

Small Ripples

< 15 Visions

Finally, there were a few ideas that, while only mentioned a handful of times, seem especially promising. These may be considered emerging opportunities, innovation edges, or signals for the future. Some are notable for the significant increase in private investor capital they have elicited in recent years (e.g., insect protein); some stand out for their timeliness (e.g., new food delivery models in the age of Covid-19); and others feel further afield until widespread use may be possible (e.g., green cryptocurrency). All illustrate the boundless imagination and hope of the food system Visionaries as they look to 2050.
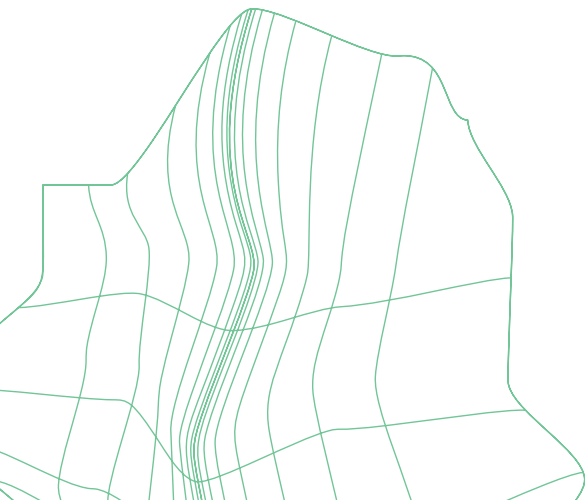
Environment	
	› Develop and advance cultivation opportunities: perennial food crops, insects, seaweed, mushrooms, algae
	› Develop and advance practices for anaerobic digestion
	› Develop and advance strategies for closed-loop cultivation

Diet	
	› Improve understanding of gut microbiome for nutritional health
	› Deepen metabolomic research to reveal the fundamental biochemical makeup of the foods we eat
	› Advance ingestible nano-sensor technology to offer 24:7 data analytics on nutrients consumed, absorbed, and needed
	› Scale produce prescription programs that let healthcare providers prescribe fruits, vegetables, and healthy foods to patients as a covered benefit

Economics	
	› Develop and advance new models of consumer engagement in food retail, including: consumer grocery cooperatives; online-enabled group purchasing; and direct-to-consumer sales
	› Repurpose soon-to-be outdated infrastructure for food systems (e.g., convert gas stations into food hubs as electric cars reduce oil dependence)

Culture	
	› Celebrate food cultures through art, music, and public gatherings to catalyze social change
	› Promote volunteering for community-based food systems
	› Advance university-based food system hubs and initiatives for change

Technology	
	› Develop and advance 3D-printed food technologies
	› Move toward open source data platforms
	› Develop new foods through new methods, such as cellular meat fermentation
	› Develop and advance cryptocurrency for food system sustainability

Policy	
	› Change public food procurement policies (such as for schools and hospitals) to prioritize sustainability and human health
	› Improve channels for marginalized groups to provide input into food policies

Image Submitted by: Kwayeskastasowin Wahkohtowin

The 76 Semi-Finalist Visions represent a broad spectrum of collaborative approaches to transform food systems.

For a geographically disaggregated picture of the solutions offered by the 76 Semi-Finalists, see Appendix.

Across the six food system themes around which the Visions are structured — Environment, Diet, Economics, Culture, Technology, and Policy — the solutions have been classified into over one hundred sub-themes.

In the six tables in Annex 1 (one for each theme), the five most common solution sets, as measured by the percentage of Visions that they appear in, are shown by continent. When multiple sub-themes are equally represented among the Visions by continent, these challenges are counted as one of the five.

Culture
Top Solutions

Food System Vision Prize

Africa (6 Visions)		Asia (15 Visions)		Europe (6 Visions)		North America (27 Visions)		Oceania (3 Visions)		South America (5 Visions)	
Shared Assets/ Community-based	25%	Shared Assets/ Community-based	18%	Education-based	20%	Education-based	16%	Human Rights/ Food Sovereignty/ Justice	30%	Recipes	29%
Purpose/Meaning/ Spirituality of Food System	18%	Recipes	14%	Recipes	20%	Shared Assets/ Community-based	16%	Indigenous/Native Values/Practices	30%	Shared Assets/ Community-based	24%
Indigenous/Native Values/Practices	16%	Inter-generational	12%	Shared Assets/ Community-based	20%	Indigenous/Native Values/Practices	13%	Education-based	10%	Education-based	12%
Education-based	11%	Purpose/Meaning/ Spirituality of Food System	12%	Purpose/Meaning/ Spirituality of Food System	12%	Purpose/Meaning/ Spirituality of Food System	13%	Farmer Organizations/ Organizing Farmers	10%	Purpose/Meaning/ Spirituality of Food System	12%
Recipes	9%	Slow Food	12%	Human Rights/ Food Sovereignty/ Justice	8%	Recipes	12%	Recipes	10%	Human Rights/ Food Sovereignty/ Justice	6%
		Indigenous/Native Values/Practices	11%	Inter-generational	8%	Slow Food	10%	Shared Assets/ Community-based	10%	Indigenous/Native Values/Practices	6%
		Education-based	9%	Animal Welfare/ Treatment of Animals	4%	Human Rights/ Food Sovereignty/ Justice	9%			Inter-generational	6%
				Community Organizing	4%					Language or Linguistic Emphasis	6%
				Slow Food	4%						

Tensions

04

While the Visions are ultimately rooted in hope, the Visionaries are not naive to the tensions challenging their envisaged blueprints for transformation. These tensions are largely choices that will need to be made in shifting their food systems from the status quo to the aspired future state.

Efficiency

Quality

Do we optimize for food system efficiency or food quality?

Improving the efficiency of food production, specifically crop yields, has been the primary driving force of agricultural innovation since its inception. More recently, the focus on food system efficiency has started to account for other considerations, such as impacts on the resource base, supply chain optimization, and offering out-of-season availability. At the same time, more attention has been directed to the quality of the food being produced through variables like nutrient density and diversified food sources.

While these two goals of efficiency and quality are not mutually exclusive, they are often pitted against one another. Further, the stage of development of a particular locality might elevate one set of demands over the other. For instance, if calorie insufficiency remains high, increasing crop yields might feel like the preeminent consideration for that particular food system. As we pursue food system transformation across the world, how do we reconcile these tensions on a global level? What are trade-offs when a food system chooses one or the other?

Farmer
Livelihoods

Affordability for
Consumers

True cost
of food

Do we optimize our economic system to support farmer livelihoods, affordability for consumers, or the true cost of food which accounts for human health or environmental impacts?

Many of the Visions focus on the need for consumers to access affordable, high-quality, and nutritious foods. However, lowering the cost of food generally does not benefit farmers.

Other Visions argue that in the future, food systems need to value the work that farmers perform for us and reward them for producing it in a regenerative way, which may drive up the cost of food, at least in the short term. Other Visions argue that we need to expose consumers to the true cost of food, including its role in preventing or expediting the onset of diet-related disease and its contribution to degrading versus sustaining the environment.

Factoring in these costs, which are currently viewed as externalities, will change the price of food. Who will pay these revised prices is the question.

Urban

Rural

In the future, can food systems within urban and rural areas both flourish, or do we have to choose?

Rural areas have seen significant population decline as cities have grown rapidly in recent decades. Some Visionaries link the vitality of rural areas to the vitality of our food systems. If people choose not to live in rural areas, who will produce the food? However, other Visions point to the projected surge in urbanization and demographic shifts away from rural areas, suggesting that urban agriculture is the best way to ensure local production and reduce the length of supply chains.

Is the Vision for the future focused on the city as the epicenter of food production, or do we still envision rural producers supplying cities? If rural areas do continue producing, as research on the production potential of urban farming systems suggests they will, will urban dwellers be willing to invest in rural communities for the sake of a nourishing food system?

Reimagine

Eliminate

Do we need to reimagine animal agriculture or eliminate it altogether?

In general, many Visions suggest that reducing animal-sourced foods makes sense for human and environmental health. However, some Visionaries believe in a complete elimination of animal agriculture and reliance on plant-based foods, or even a large-scale move toward veganism. Others aspire to supplant modern-day animal agriculture by transitioning to cell-based meat to meet consumer demands in a more environmentally sustainable way.

Still others propose that animal agriculture could play an important role in food systems in the future for cultural, soil health, and dietary reasons, but that cultivation needs to be increasingly humane and sustainable.

Applying Systems Thinking

05

While prizes for innovation are common across philanthropy, government, and the private sector, the Food System Vision Prize was unique for its systemic nature.

Visionaries were explicitly encouraged and evaluated on their ability to deploy systems thinking as a way of envisioning how their challenges are interrelated, and how their solutions best target their multi-faceted, interconnected food systems in a way that ushers in transformation. To support these efforts, Visionaries were provided with a Prize Toolkit that includes, among other things, introductory resources on Systems Thinking.

A qualitative analysis focused specifically on the 76 Semi-Finalists reveals how Visionaries deployed systems thinking in their Visions, and lets us glean insights into the systems change strategies they promote.

What will drive systems change?

Six archetypes emerge that classify how Visionaries foresee change occurring at a systemic level. Though not all Visions have a discernible theory of change, many had one that can be classified into one or more of the following categories.
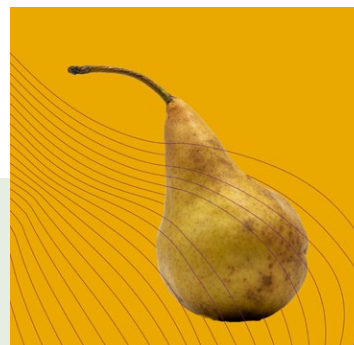
01

Scalable Disruptions

The most common archetype of systems change is scalable disruptions—whereby a small, impactful change disrupts the status quo of the system, and then scales to the point where it transforms it entirely, triggering a host of downstream effects. Within the Semi-Finalist cohort, technologies or business models are most often viewed as effective systemic disruptors.

Examples: Philippi, Cape Town Food Hubs; Burkina Faso Terraforming; Kukup, Malaysia Sustainable Fisheries; Liverpool, UK Regional Economy; Washington DC Food Economy
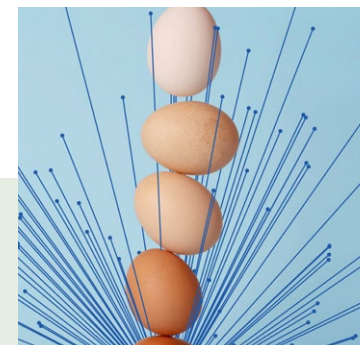
02

Collaborative Changemaking

This theory of change is based on the idea that building new relationships, and transforming existing ones, are the keys to changing system behavior. These Visions focus on creating the conditions that will make relationship formation possible. Sometimes collaborative changemaking takes the form of physical spaces for people to come together; other times it manifests as a movement or coalition dedicated to food systems change. Overall, this theory of change is rooted in the idea that unexpected things will emerge if we converge systems agents that were not previously linked.

Examples: Stone Barns — Hudson Valley, USA Food Culture; Northwest Oregon, USA Economic Development; Ohio, USA Youth Activism; Nairobi Cool Waters

03

Cultivating Mass Conscientiousness

Another common theory of change zeroes in on the role of individual behavior change as a tool for systems change. These Visions call for cultivating a critical mass of conscientious behavior by individual agents at a scale capable of triggering systemic shifts. Visions calling for this type of change often view a deep, personal level of awareness, especially of one's role in the food system, as the necessary tinder to spark systemic change. Some of the Visions see this as a function of consumer awareness; others focus more on the spiritual and/or mythological dimensions of the food system to incite largescale transformation.

Examples: Regenerating the Ancient Mayan Food Network; Galapagos Islands Food Flows; Beijing Food Hubs; Scotland Good Food; Vermont, USA School Programs
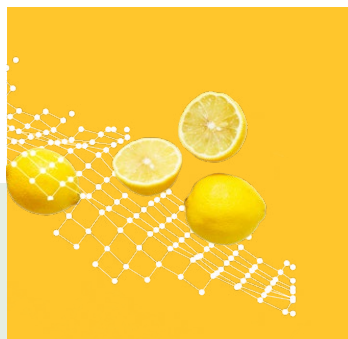
04

Changing the Rules of the System

Visions that apply this theory of change focus on the role of policy and norms in creating shifts in system behavior. By changing the rules that govern how the system operates, whether at the level of markets, individual choice making, or anywhere in between, it forces agents within the system to change their behavior accordingly.

Examples: Netherlands Regenerative Food Future; Quezon, Philippines: Rebuilding Rural Paradise; Hong Kong Sustainable Food City

05

Push and Pull

This less common, but still present theory of change uses a combination of push-and-pull strategies to generate mutually reinforcing changes in different parts of the system. These Visions look to leverage the grassroots or community level, as well as the policy level. Such Visions are often put forward by teams of food system stakeholders who inhabit that middle layer of the system (i.e., the layer between civil society and government) — especially established NGOs that have the ability to convene a range of actors.

Examples: Quito, Ecuador Food Citizens; Brisbane Edible Public Spaces; Southwest Canada Bioregional Food System; Ecuador Multi-nodal Food Webs
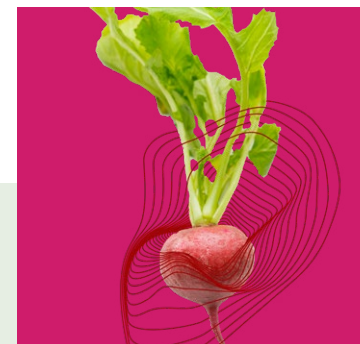
06

Playing a New Game

The final archetype, and the least common, entails flipping the script entirely, or "Playing a New Game." These Visions call for architecting a new system, governed by new rules and composed of agents who self-select to participate in the system, which exists in parallel to the status quo. These Visions are often predicated on the idea of eventually outcompeting the existing system, either due to macro-forces that will lead to eventual collapse of the status quo (and the new system's comparative resilience to such factors), or due to the comparative benefits offered by participating in the new system.

Examples: 7Gen Food System; Treaty 4 Canada; Washington, DC Region Food Democracy

Trends

06

Viewing the Six Food Systems Themes Together

Making sense of Visionaries' articulations of the future means looking across the solution sets, challenge statements, and strategies for systems change

In the language of systems thinking, it is only by "zooming out" that one can see the linkages between ideas, actors, and forces that the structure of the system emerges. From the analysis of the Semi-Finalist Visions, it is clear that the current global industrial food system is failing on two fronts: it is not generating the demand for nor meeting the needed supply of nourishing, sustainable, and accessible foods for all. Healing the broken connections between food system Themes (e.g. economics, policy, culture, etc.) is at the root of these problems and presents a necessary step toward transforming our food systems. The two sections below examine the broken connections between two sets of food system Themes as emerged across dozens of Visions: (1) Culture + Diet + Environment, and (2) Policy + Economics + Environment.

Re-establishing the Connection Between Culture, Diet, and Environment

Visionaries speak resoundingly about the role that dietary choice plays in our current environmental and health crises. Climate change, soil erosion, water pollution, malnutrition, food insecurity, obesity, and dietary disease were all among the most discussed challenges in this dataset. But underneath these outcomes, Visionaries point to the need to shift food cultures (including the food environment) that influence our dietary choices.

Culture can be thought of as the narrative that binds societies together, a library of the accumulated knowledge of every generation that has come before us, and a guidebook that provides a common language and structure that we organize ourselves around. However, around the world, local food cultures are being displaced by the outputs of industrial agriculture: ultra-processed foods and cheap, empty calories. Shifting this reality is critical to drive a transition to a more sustainable and healthier system. Most commonly Visionaries framed this shift in terms of advancing conscious consumption–defined by a deeper understanding of where our food comes from, how it gets produced, and what it means for our health and the health of the planet. Thus, increasing public awareness is vital to this process of shifting food cultures.

Shifting food cultures to reflect our values of health and the environment will not be easy; it will require innovation and influence, especially on the part of the culinary professionals who will be needed to help shift dietary preferences to local, seasonal, fresh, and culturally appropriate foods with lower environmental footprints and better nutritional quality. It will also require individuals to reconnect with the world in ways that may feel unfamiliar in an age driven by convenience—taking time to slow down, appreciate the story behind our meals, and feel its connection to the earth we rely upon. But as our Visionaries point out, many of whom are chefs and other culinary professionals, healing these connections is pivotal to drive the transformational changes needed.
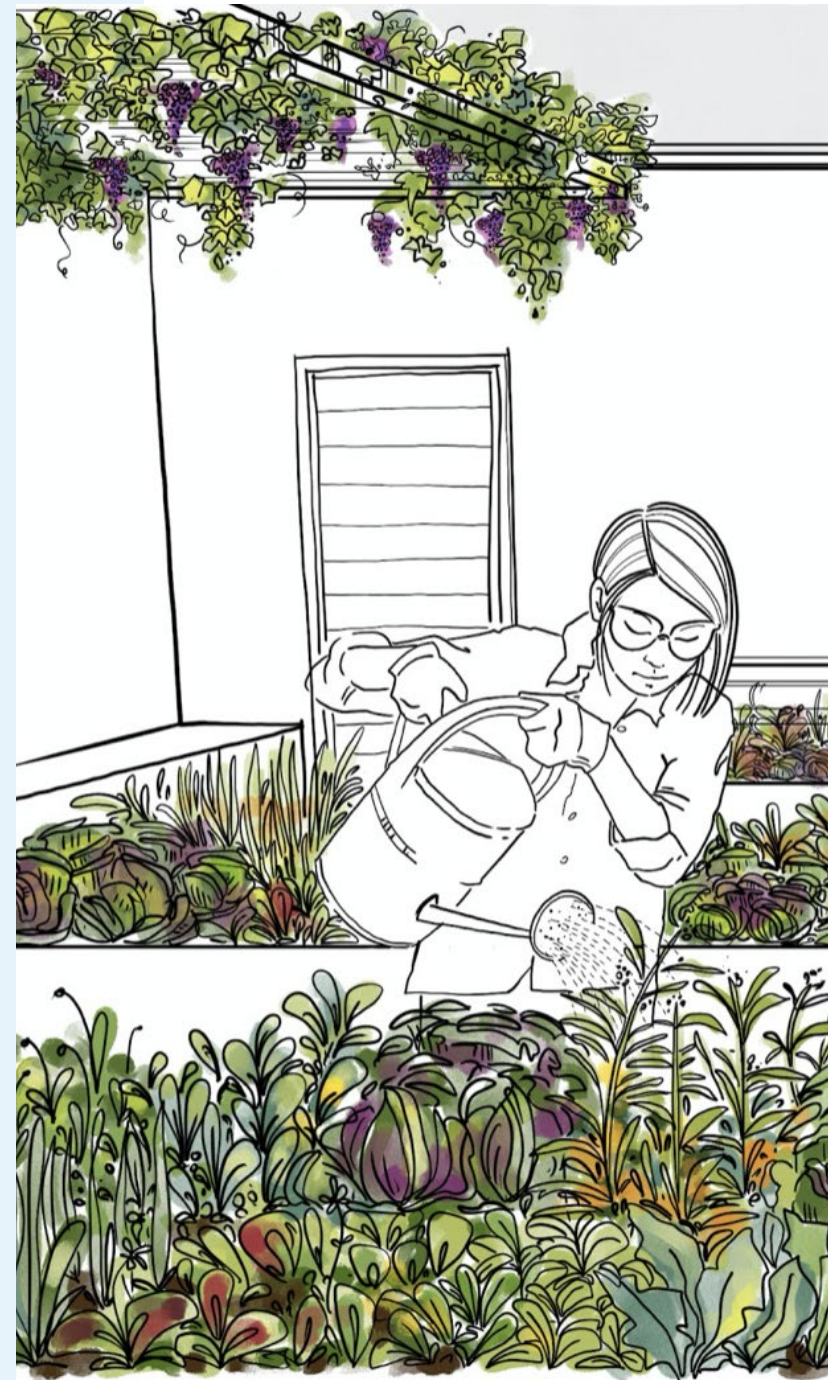
Image Submitted by: Lima 2035

Rethinking the Linkages Between Policy, Economics, and Environment

Visionaries frequently note that current policies and economic models are constructed to systematically devalue the environment, externalizing what should be private costs into global and regional commons. While it is true that we (as consumers) all have some role to play in supporting a shift to more sustainable models, transitioning a system as large and complex as the global food system cannot be achieved by the coordinated actions of consumers alone. It will require bold action on the part of leaders around the world to incentivize an economic shift that redefines the relationship between food and the environment.

The field of economics has proven to be an incredibly useful tool for facilitating the exchange of goods and services, which in turn has helped us advance human well-being on critical metrics, and unleash latent potential for human flourishing. But the field is not without its flaws, and many Visionaries identify the strains of unchecked global capitalism as a root cause of the problems they observe in their food systems. By treating food as a commodity, rather than an input into human well-being and a function of a healthy environment, economic models have distorted reality. And, perhaps most critically, our governance systems have sided with the models rather than reality

itself. How else could our global food system be both the number one cause of preventable death globally, and the biggest contributor to greenhouse gas emissions?

The economy cannot continue to take precedence over the environment we rely upon. And this is perhaps the most critical, and difficult change urged by the Visionaries. Multiple Visionaries highlight the need to rethink the growth paradigm that postulates that gross domestic product (GDP) can continue to grow in perpetuity — a consensus we inherited from twentieth century thinking. For what good is GDP if it debases the environment? What good is GDP if billions of people are not sharing in the progress it supposedly represents? This is perhaps the most drastic change several Visionaries from across the world called for: reconsidering economics' place in the hierarchy of societal functions. A bold call like this is vital to healing the broken connection between the economy, policy, and environment — each a key dimension of our food system.
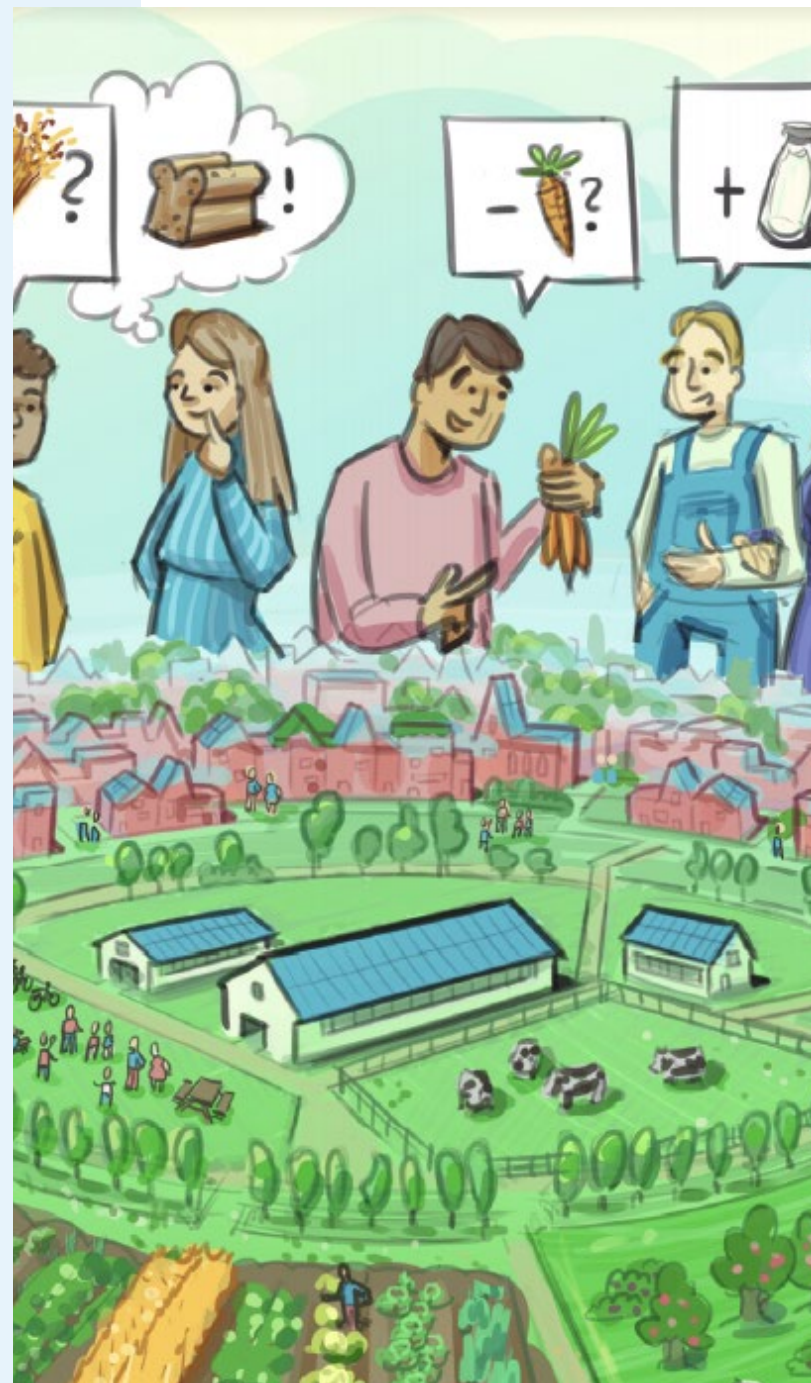
Image Submitted by:Re-rooting the Dutch Food System

Conclusion

07

Envisioning Regenerative and Nourishing Food Futures for 2050

For the vast majority of us, future thinking does not come naturally – it's a stretch. Think about how difficult it would be for you to consider what your life might be like in the year 2050.

What uncertainties will you be navigating? What will your career and your relationships look like, and where will you be living? What challenges will you be confronting and what solutions will you be using to solve them? Now try to consider those in the context of the changes happening around us: a global pandemic, political tensions across the world, and environmental change. Recognizing the inherent discomfort and imprecision of future-casting, the Visionaries embraced an incredibly difficult task: to articulate positive food futures, not just for individuals, but for all facets of whole food systems.

It may be tempting to look at the Visions and decry them as infeasible, too blue sky, or simply too embryonic and without the backing of the countless partners required to mobilize movements for change. And yet, these Visionaries should be applauded for the creativity and courage they displayed in grappling with this challenging task. As The Rockefeller Foundation's Sara Farley and Roy Steiner stated at the outset of the Prize, *"We can all be protagonists in our own futures. It just takes daring to co-create a Vision."* By envisioning our hopes and dreams and detailing the roadmap to make them possible, we inch closer to the future we want.

Whether you find them motivating or unnerving, ultimately these Visions issue an invitation to each of us: What future do you choose? What future do you seek? What future do you stand for?

We each have a role in shaping tomorrow. These Visions are North Stars that can guide us in driving much needed changes in the way we produce, distribute, manage, consume, regulate, and govern food. What happens next depends on each of us joining the Visionaries' call for systems change.

Appendix

08

A Note on Bias in the Dataset

The findings shared in this report draw on the analysis of the rich and varied dataset of Food System Vision Prize applicants. The lessons extracted can be valuable but, as with any dataset, they contain biases and there are limits to how far the findings can be applied. In retrospect, there are four key biases that the data made clear, some endemic to the Prize itself and others related to the limitations of the analysis:

Language

Applicants were required to apply in English, which created a disadvantage for non-English speaking regions and an advantage for English-speaking regions.

Resources Required to Participate:

As other Prize competitions have noted, the resources required to apply, especially in a competition that is open-source and evolving throughout several months, is considerable. Our data showed a more significant drop-off in completion of applications from low-resource settings than from high-resource settings, suggesting that the time and resources required exceeded what was feasible for some teams, particularly those in low-resource regions.

Low Participation by Established Private Sector

The Prize had applicants and collaborators from the private sector; however, larger private companies were vastly missing from the pool of applicants. This discrepancy may be due to the size of the Prize money, or the structure of the Prize itself, which appealed more to civil society organizations of various types. Private companies also might be concerned with a brand perception issue, as well as the legal hurdles they may have had to overcome to participate in the Prize. Visions tended not to include large, multi-national companies as part of the solution, and often perceived them as actors contributing to some of today's food systems challenges.

Influence of Prize Values

The values held by The Rockefeller Foundation and its partners were reflected in the Prize materials (e.g. resilience, equity, diversity, etc.). This could also mean that actors who envision a different set of values as the most important for future food systems would be less likely to apply.

Data by Theme

In the six tables below (one for each theme), the five most common solution sets, as measured by the percentage of Semi-Finalist Visions that they appear in, are shown by continent. When multiple sub-themes are equally represented among the Visions by continent, these challenges are counted as one of the five.

THEMES

🌱 **Environment**

🍲 **Diet**

🪙 **Economics**

♡ **Culture**

🖥 **Technology**

📄 **Policy**

Culture
Top Solutions

Africa
(18 Visions)

Solution	%
Shared Assets/ Community-based	25%
Purpose/Meaning/ Spirituality of Food System	18%
Indigenous/Native Values/Practices	16%
Education-based	11%
Recipes	9%

Asia
(15 Visions)

Solution	%
Shared Assets/ Community-based	18%
Recipes	14%
Inter-generational	12%
Purpose/Meaning/ Spirituality of Food System	12%
Slow Food	12%
Indigenous/Native Values/Practices	11%
Education-based	9%

Europe
(8 Visions)

Solution	%
Education-based	20%
Recipes	20%
Shared Assets/ Community-based	20%
Purpose/Meaning/ Spirituality of Food System	12%
Human Rights/ Food Sovereignty/ Justice	8%
Inter-generational	8%
Animal Welfare/ Treatment of Animals	4%
Community Organizing	4%
Slow Food	4%

North America
(27 Visions)

Solution	%
Education-based	16%
Shared Assets/ Community-based	16%
Indigenous/Native Values/Practices	13%
Purpose/Meaning/ Spirituality of Food System	13%
Recipes	12%
Slow Food	10%
Human Rights/ Food Sovereignty/ Justice	9%

Oceania
(3 Visions)

Solution	%
Human Rights/ Food Sovereignty/ Justice	30%
Indigenous/Native Values/Practices	30%
Education-based	10%
Farmer Organizations/ Organizing Farmers	10%
Recipes	10%
Shared Assets/ Community-based	10%

South America
(5 Visions)

Solution	%
Recipes	29%
Shared Assets/ Community-based	24%
Education-based	12%
Purpose/Meaning/ Spirituality of Food System	12%
Human Rights/ Food Sovereignty/ Justice	6%
Indigenous/Native Values/Practices	6%
Inter-generational	6%
Language or Linguistic Emphasis	6%

Diet
Top Solutions

Africa
(18 Visions)

Micro-nutrient Intake	23%
Behavior Change	18%
Macro-nutrient Intake	15%
Food Environment/ Retail Environment	11%
Malnutrition/ Under-nutrition of Target Populations	11%
Food Processing and Preservation	6%

Asia
(15 Visions)

Behavior Change	24%
Food Environment/ Retail Environment	13%
Micro-nutrient Intake	13%
Malnutrition/ Under-nutrition of Target Populations	11%
Food Safety	9%
Reducing Animal Protein	9%
Food Processing and Preservation	7%

Europe
(8 Visions)

Behavior Change	30%
Food Environment/ Retail Environment	15%
Micro-nutrient Intake	15%
Personalized Nutrition	11%
Reducing Animal Protein	11%
School or Other Institutional Meals (Hospitals, Food Banks)	7%
Macro-nutrient Intake	4%
Microbiome	4%
Repurposing Food Waste	4%

North America
(27 Visions)

Behavior Change	23%
Micro-nutrient Intake	15%
School or Other Institutional Meals (Hospitals, Food Banks)	13%
Food Environment/ Retail Environment	13%
Macro-nutrient Intake	10%

Oceania
(3 Visions)

Behavior Change	33%
Food Environment/ Retail Environment	17%
Microbiome	17%
Personalized Nutrition	17%
School or Other Institutional Meals (Hospitals, Food Banks)	17%

South America
(5 Visions)

Behavior Change	42%
Micro-nutrient Intake	17%
Food Environment/ Retail Environment	8%
Food Safety	8%
Macro-nutrient Intake	8%
Microbiome	8%
School or Other Institutional Meals (Hospitals, Food Banks)	8%

Economics
Top Solutions

Food System
Vision Prize

Africa
(18 Visions)

Solution	%
Job Creation	24%
Access to Healthy Foods	14%
Circular Economy Models	13%
Financial Services Access	8%
Food Hubs	6%
Income Generation	6%

Asia
(15 Visions)

Solution	%
Income Generation	22%
Access to Healthy Foods	14%
Consumer Preferences	14%
Job Creation	12%
Circular Economy Models	10%
Cost Reduction	5%
Reducing Food Miles	5%
Sharing Economy	5%
Tourism	5%

Europe
(8 Visions)

Solution	%
Circular Economy Models	23%
Income Generation	19%
Access to Healthy Foods	15%
Carbon Credits (or Other New Marketplace)	8%
Financial Services Access	8%
Reducing Food Miles	8%
Consumer Preferences	4%
Cost Reduction	4%
Food Hubs	4%
Incentives	4%
Job Creation	4%

North America
(27 Visions)

Solution	%
Access to Healthy Foods	18%
Job Creation	18%
Income Generation	12%
Consumer Preferences	11%
Food Hubs	11%
Reducing Food Miles	9%
Circular Economy Models	6%

Oceania
(3 Visions)

Solution	%
Job Creation	33%
Access to Healthy Foods	17%
Circular Economy Models	17%
Food Hubs	17%
Income Generation	17%

South America
(5 Visions)

Solution	%
Circular Economy Models	19%
Food Hubs	19%
Income Generation	19%
Access to Healthy Foods	13%
Job Creation	13%
Financial Services Access	6%
Market Access	6%
Reducing Food Miles	6%

Africa
(18 Visions)

Land Use	18%
Water Resource Management	17%
Soil Health Solutions	14%
Recycling/ Upcycling/Re-use	12%
Biodiversity	8%

Asia
(15 Visions)

Land Use	17%
Soil Health Solutions	17%
Recycling/ Upcycling/Re-use	12%
Water Resource Management	12%
Local Adaption	10%
Agroforestry	8%
Biodiversity	6%
Urban Design/ Landscape Architecture	6%

Europe
(8 Visions)

Land Use	16%
Recycling/ Upcycling/Re-use	14%
Soil Health Solutions	11%
Water Resource Management	9%
Agroforestry	7%
Biodiversity	7%
Fisheries Management	7%
Local Adaption	7%
Urban Design/ Landscape Architecture	7%

North America
(27 Visions)

Land Use	20%
Biodiversity	15%
Soil Health Solutions	13%
Recycling/ Upcycling/Re-use	10%
Water Resource Management	9%

Oceania
(3 Visions)

Land Use	19%
Local Adaption	19%
Water Resource Management	19%
Biodiversity	13%
Soil Health Solutions	13%
Aquaculture	6%
Recycling/ Upcycling/Re-use	6%
Urban Design/ Landscape Architecture	6%

South America
(5 Visions)

Recycling/ Upcycling/Re-use	17%
Biodiversity	13%
Land Use	13%
Soil Health Solutions	13%
Water Resource Management	13%
Agroforestry	7%
Local Adaption	7%
Urban Design/ Landscape Architecture	7%
Animal Agriculture	3%
Fisheries Management	3%
Pest or Disease Control	3%

Policy
Top Solutions

Africa
(18 Visions)

Policies Referenced Beyond Agriculture (Health Consumer Protection)	19%
Environmental Protection	11%
Land Ownership/ Reform/Tenure	11%
Urban Ag Policy	9%
Novel Ecosystem Service Markets (Carbon or Water Management Service Credit)	7%
Regulation of Industry or Farmers	7%
Subsidy	7%
Taxation	7%
Participatory Governance	5%
Public Extension	5%

Asia
(15 Visions)

Policies Referenced Beyond Agriculture (Health Consumer Protection)	24%
Environmental Protection	14%
Subsidy	14%
Urban Ag Policy	10%
Regulation of Industry or Farmers	8%
Taxation	8%
Food Labeling or Traceability	3%
Land Ownership/ Reform/Tenure	3%
Trade/Import/ Export Changes	3%
Workers Rights	3%

Europe
(8 Visions)

Environmental Protection	19%
Policies Referenced Beyond Agriculture (Health Consumer Protection)	16%
Urban Ag Policy	16%
Participatory Governance	10%
Taxation	10%
Food Labeling or Traceability	3%
Land Ownership/ Reform/Tenure	3%
Novel Ecosystem Service Markets (Carbon or Water Management Service Credit)	3%
Procurement Policy	3%
Regulation of Industry or Farmers	3%
Subsidy	3%
Trade/Import/ Export Changes	3%
UBI	3%
Workers Rights	3%

North America
(27 Visions)

Policies Referenced Beyond Agriculture (Health Consumer Protection)	19%
Environmental Protection	16%
Regulation of Industry or Farmers	14%
Subsidy	11%
Taxation	8%

Oceania
(3 Visions)

Participatory Governance	29%
Environmental Protection	14%
Land Ownership/ Reform/Tenure	14%
Policies Referenced Beyond Agriculture (Health Consumer Protection)	14%
Trade/Import/ Export Changes	14%
Urban Ag Policy	14%

South America
(5 Visions)

Environmental Protection	27%
Policies Referenced Beyond Agriculture (Health Consumer Protection)	27%
Urban Ag Policy	13%
Food Labeling or Traceability	7%
Participatory Governance	7%
Regulation of Industry or Farmers	7%
Subsidy	7%
Trade/Import/ Export Changes	7%

Technology
Top Solutions

Food System
Vision Prize

Africa
(18 Visions)

Solution	%
Solar or Energy Innovation	14%
Data Use or Analysis	12%
Mobile Phone/ Internet/ Connectivity	12%
Aquaponic/ Hydroponic/Indoor Agriculture	7%
AI	6%
Blockchain	5%
Packaging/Waste Innovation	5%
Robots & Drones	5%

Asia
(15 Visions)

Solution	%
Data Use or Analysis	11%
Blockchain	8%
Mobile Phone/ Internet/ Connectivity	8%
Packaging/Waste Innovation	8%
Aquaponic/ Hydroponic/Indoor Agriculture	7%
AI	7%
IOT	7%
Smart Sensors	7%
3D Printing	6%
Mechanization	6%
Solar or Energy Innovation	6%
Food Distribution	4%
Robots & Drones	4%
Traceability Innovation	4%

Europe
(8 Visions)

Solution	%
Data Use or Analysis	18%
Aquaponic/ Hydroponic/Indoor Agriculture	12%
Food Distribution	9%
Mobile Phone/ Internet/ Connectivity	9%
Plant-breeding	9%
Precision Growing	9%
Smart Sensors	9%
3D Printing	6%
Blockchain	6%
Robots & Drones	6%
Solar or Energy Innovation	6%
Packaging/Waste Innovation	3%

North America
(27 Visions)

Solution	%
Data Use or Analysis	19%
Smart Sensors	11%
AI	10%
Mobile Phone/ Internet/ Connectivity	7%
Solar or Energy Innovation	7%
Food Distribution	6%
Robots & Drones	6%

Oceania
(3 Visions)

Solution	%
Data Use or Analysis	20%
Precision Growing	13%
Aquaponic/ Hydroponic/Indoor Agriculture	7%
3D Printing	7%
Blockchain	7%
IOT	7%
Mechanization	7%
Open Data	7%
Packaging/Waste Innovation	7%
Plant-breeding	7%
Robots & Drones	7%
Smart Sensors	7%

South America
(5 Visions)

Solution	%
Mobile Phone/ Internet/ Connectivity	25%
Packaging/Waste Innovation	25%
Data Use or Analysis	13%
Mechanization	13%
Solar or Energy Innovation	13%
Water Harvesting	13%

north star