

Strengthening Foresight and Scenario Analysis for the Global Food System

Foresight4Food International workshop Summary of Proceedings



1 Introduction

Background and Objectives

Is the world sitting on a food “time bomb”? If so, what can be done about it? What foresight work is being undertaken, by whom, and for what purpose? Is foresight work helping to keep food issues high enough on global and national agendas to drive change towards the sustainable development goals (SDGs)?

To explore these critical questions, a “Foresight4Food” workshop was convened in Oxford on 22-23 April 2017. This report covers the proceedings and conclusions of the workshop.

The workshop was hosted by the Environmental Change Institute and the Oxford Martin School, and organised in collaboration with the Food and Agriculture Organisation (FAO), the International Food Policy Research Institute (IFPRI), the Australian Centre for International Agricultural Research (ACIAR), the CGIAR Policies Institutions and Markets (PIM) Programme and the French Agricultural Research Centre for International Development (CIRAD). Funding to support the event was provided by ACIAR, Oxford University (through the UK Biotechnology and Biological Sciences Research Council) and CGIAR PIM.

The purpose of the event was to explore how enhanced foresight and scenario processes related to the global food system can help drive the societal understanding, policy change, and business strategy required to achieve the SDGs, especially SDG Two: to “end hunger, achieve food security and improved nutrition, and promote sustainable agriculture”.

The objectives of the workshop were to (i) undertake a stocktake of existing foresight and scenario work; (ii) assess the opportunities for strengthening and coordinating foresight work better; (iii) examine how scientific processes can be better connected with strategic dialogue and policy engagement; and (iv) assess the merits of an on-going global initiative to take forward ideas and opportunities, including a series of future science, policy, and business dialogues on the food system.

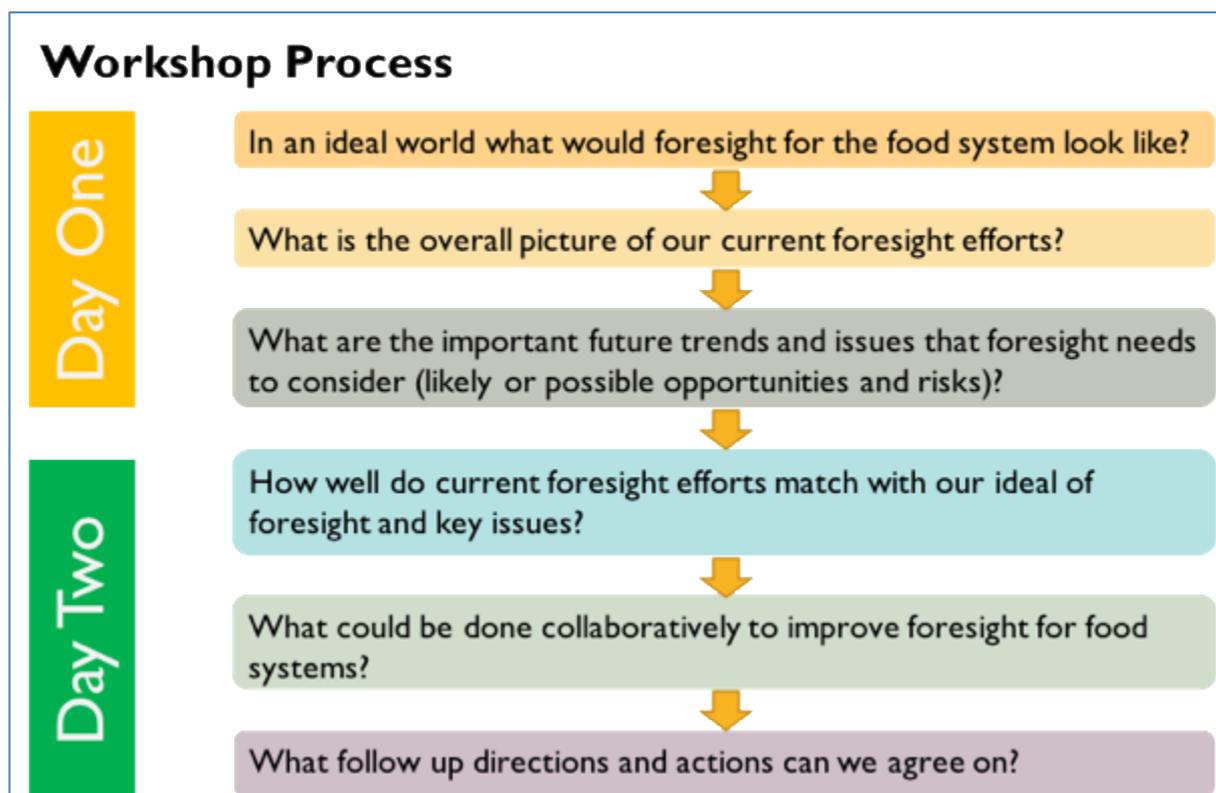
The event built on the shared view between workshop’s participants that current foresight and scenario efforts are too limited, fragmented, and insufficiently linked to stakeholder engagement and policy dialogue to adequately support the demands of achieving the SDGs.

Programme

The workshop was designed to enable participants to develop a shared understanding of the language around food systems and foresight; explore visions for improved foresight; share knowledge and experience of current foresight work; and identify priorities for future collaboration to improve foresight for the food system.

Participants

Forty-five senior participants attended the workshop (see annex one), representing international organisations, scientific institutions working on foresight, donor agencies, foundations, and the business community.



Wednesday 22nd March 2017	
9:00 - 9:15	Welcome – Professor Jim Hall, Director ECI Welcome - Dr Achim Steiner, Director Oxford Martin School
9:15 - 9:30	Background and purpose The language and boundaries of foresight and food systems
9:30 - 10:00	Getting to know each other – What brings you here? Expectations.
10:00 - 11:00	Defining foresight for the food system and generating visions for what would be in “ideal” global approach. User perspectives – what do policy makers, business, civil society and media need from foresight for it to be useful for their needs?
11:00 - 11:30	Refreshments
11:30 -12:30	Sharing perspectives on foresight and ideal approaches
12:30 - 1:30	Lunch
1:30 - 3:00	Five minute briefing presentations on current foresight work; FAO, IFFPRI, CGIAR, AgMIP, Global Panel, GFAR; CCAFS; Agrimonde; IIASA- GLOBIOM; EU; TransMango/SUSFANS; impromptu contributions.
3:00 - 3:30	Refreshments
3:30 - 5:00	Round-table discussion on current foresight work
5:00 - 5:45	Brainstorm – what are the big issues and questions that food system foresight needs to be covering?
6:30	Drinks and workshop dinner

Thursday 23 March 2017	
9:00 - 9:15	Reflections from day one
9:15 - 9:30	Review outcomes of the “big issues”
9:30 - 11:00	“State of play” – what are the strengths and weakness of the current set of foresight initiatives in terms of – identified user perspectives, coverage of issues; availability of data; methodology; coordination; scale of use; policy engagement; stakeholder dialogue; outreach and communication. What opportunities emerge?
11:00 - 11:30	Refreshments
11:30 - 12:30	Brainstorm – Ideas for strengthening foresight to help drive food system transformations toward greater resilience for health, environment and equity outcomes
12:30 - 1:30	Lunch
1:30 - 2:00	Establishing a Foresight4Food platform/initiative – is it needed, how could it work, funding, etc.?
2:00 - 3:30	Exploring options for strengthened foresight: linking academic; international agency and business efforts; foresight informed strategic dialogues; policy engagement; a global dashboard; methodology development; supporting regional, national and sub-national processes; outreach and communication
3:30 – 3:50	Agreeing on follow-up actions
3:50 – 4:00	Wrap up and close.

2 DAY ONE - Wednesday 22nd March 2017

Dr. Woodhill welcomed all participants, after which opening speeches were delivered by professor Jim Hall, Director of the Environmental Change Institute; and Dr. Achim Steiner, Director of the Oxford Martin School. Following the presentation of the background and objectives of the event by Dr. Woodhill, the welcoming session ended with a round of introductions between participants, allowing them to communicate their expectations for the workshop.

Welcoming remarks

1) Professor Jim Hall, Director, ECI: The Environmental Change Institute¹ research programmes focus on energy, climate, ecosystems, water, and food issues. My colleague John Ingram initiated a food system program three years ago, and it is safe to say that a food system perspective is not yet well captured by all parts of the policy and industry community who recognize the existence of the systemic risks.

In the UK, for example, food systems risks were among the six risks identified in 2016 within the climate change risk assessment²; however it was the only risk which the government has rejected as being a matter of serious consideration within the Department for the Environment and Food and Rural Affairs, which considers that the food system could look after itself in the context of climate change.

The workshop will explore the ways in which the food system might or might not be able to autonomously manage the global risks to which it is exposed. Scenario analysis is very much a central part of understanding the risks and vulnerabilities within the food system. What is worrying is that some scenarios are not necessarily firmly grounded in current established scientific literature: for example, the work on the Multiple Breadbasket Failure Initiative³, which looks at the climate drivers behind the breadbasket failure, is pointing in a different direction to some of the work done within the insurance industry.

More broadly, this event should seek to move towards more credible, workable, actionable scenarios from a range of different perspectives. It is a great challenge. The workshop provides for a space to build on participants' experience in order to address this challenge.

2) Doctor Achim Steiner, Director, Oxford Martin School: Since arriving in Oxford, I've been surprised at how connected the world of research is to the real challenges the world is facing. I think this kind of event contributes to the interface of science and policy, which I find so interesting because we face a number of challenges that are yet without solution.

Probably there is no more dramatic challenge than the way we will be able to feed ourselves later in the century when we are 7, 8, 9, or 10 billion people. Beyond this global figure, important issues relate to national food security, equity and access, and the role of hundreds of millions of people who depend on agriculture for their livelihoods in the food economy of the future.

The vision of James Martin, founder of the Martin School, was to create a platform bringing many disciplines together, and focussing on problems and solutions to help the communities such as Oxford to truly connect with the work that many of you are doing to inform decision-makers. The school has different programs working closely on food systems and the future of food.

The matter discussed today has not yet really struck the kind of dramatic attention that it requires from the players and leaders in the agriculture industry and the food economy of the world today—neither in terms of timeline, nor in terms of complexity. There is a sense of you can produce food with no problem at all. What about water? What about the loss of arable land? What about the consequences to the environment? What about inequality in societies and in the kind of agricultural economy it perpetuates? For some economists, food can be produced, and these other issues are externalities for others to solve.

One central challenge is to find a way of connecting scientific evidence (the capacity of scenarios to predict that we are heading to some very serious crisis) and the traditional model of the 20th century, which deals with crises in a trade-off mode. Challenges today can no longer be framed in terms of trade-offs. A new public understanding about food systems and future pathways belongs in today's discussion, because it is one way to connect evidence to the real dilemmas in the everyday decision-making of policymakers..

Talking about food systems provides an enormously important interface with the 2030 agenda and the SDGs. Some professionals can be very dismissive of the 2030 agenda and its 17 goals and related targets and indicators; yet it would be a tragic error to underestimate the value of the progress that the SDGs represent from where we were just five years ago.

An integrated global development agenda is now set, and we are far from this narrative; even in government policymaking, in multilateral institutions, etc., professionals are still struggling to make these connections. In

¹ Oxford interdisciplinary Institute for study of the processes of global environmental change, development of sustainable responses, and promotion of change for the better through partnership and education

² <https://www.theccc.org.uk/uk-climate-change-risk-assessment-2017/synthesis-report/>

³ <http://jahnresearchgroup.cals.wisc.edu/research-2/multiple-breadbasket-failure-initiative/>

addition, there is a need to consider food systems within systems. Connecting the core of what food systems are trying to tackle and the broader set of challenges within which the food system would evolve is critical.

Finally, we need to look at the future of food and nutrition in the context of many different developments. At the end of the day, the work is about connecting producers and consumers at the local, national, regional and global level. There is a need to allow producers and consumers not to be treated as antagonists, but as collaborators.

Right now, in Europe, every two to three years, producers want higher prices and consumers want lower prices—that's the narrative of a model intermediated by middlemen. There is a need to rethink the agricultural economy that defines the options and choices that people can make within a food system production model and consumption marketplace. If this framework cannot change, it will be very difficult to expect that either producers or consumers to behave any differently than they have from for the last hundred years.

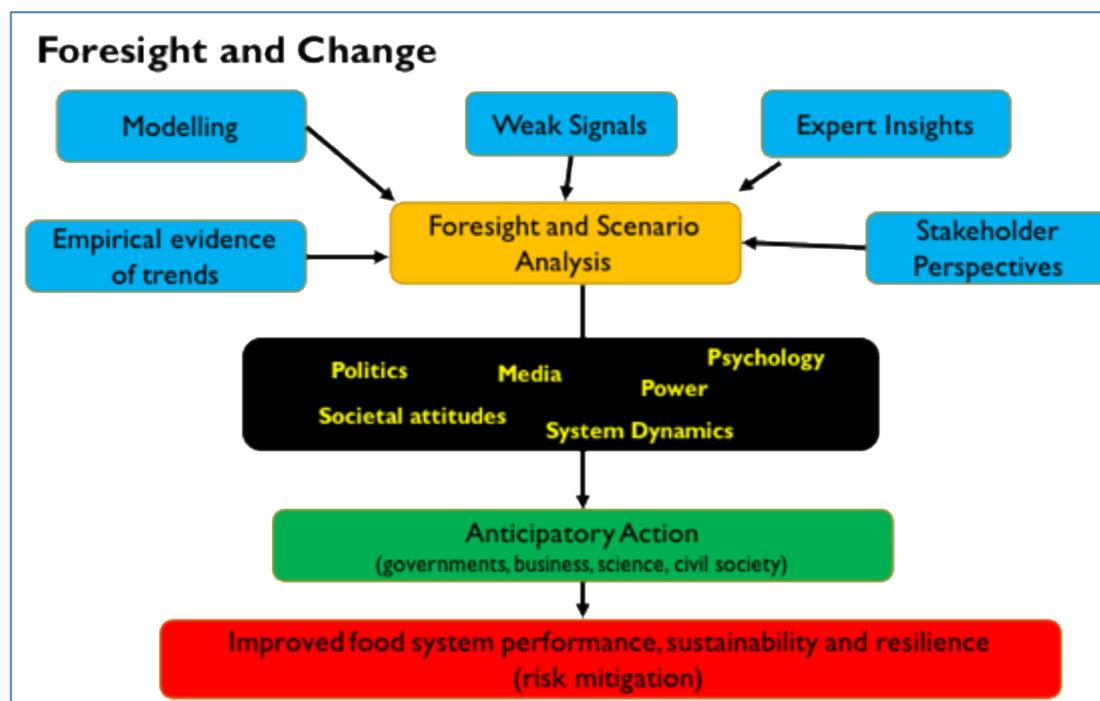
Background and objectives of the workshop⁴

Jim Woodhill provided context for the workshop, with reference to discussions that evolved with FAO, IFPRI and USAID in the side-lines of the 2014 G20 when the G20 Framework for Food Security and Nutrition was developed. The need for improved food systems foresight emerged again during the mid-2016 meeting of the food-modelling group hosted by the ECI. This provided an impetus for organising this meeting.

He outlined that this workshop aims to explore existing foresight and scenario work; assess the opportunities for strengthening and better coordinating this work; examine how scientific processes can be better connected with strategic dialogue and policy engagement; assess the merits of an on-going global initiative and identify focused follow up activities.

Jim also offered some thoughts on the link between foresight and change processes as illustrated.

Further details are given in the background document.

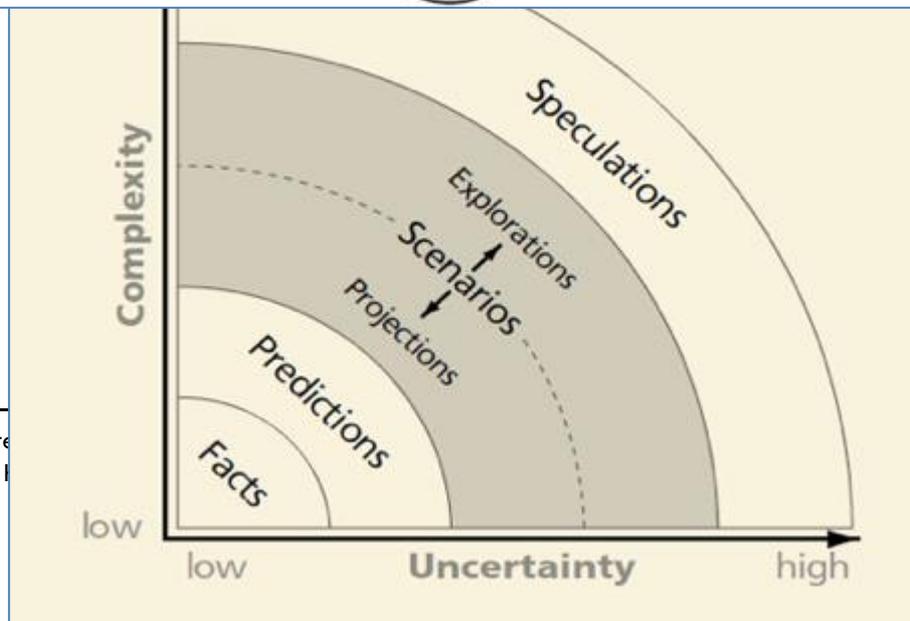
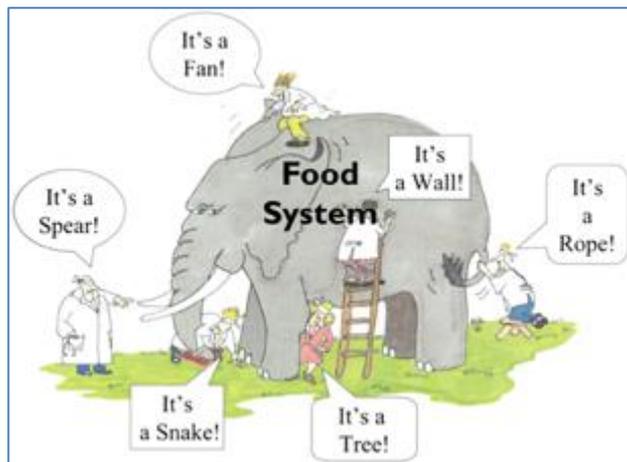


⁴ Annex 1: PPT presentation.

The Language of Food Systems and Foresight

Monika Zurek introduced language and concepts around the boundaries of foresight food systems⁵. Plenary discussion raised the following points:

- GFAR has undertaken some work on foresight terminology⁶, and there is a vast range of different approaches around foresight. Perhaps we should be talking about “foresights”.
- There are very diverse actors engaged in different approaches.
- There needs to be clarity around the differences between projections, scenarios, foresight, and the assumptions that underlie thinking about future situations.
- There is a need to clarify the contribution of agribusiness in foresight for food systems and how to measure “improved performance”—especially considering that the private sector constitutes 98% of the food system.
- Given that the food system operates at so many levels and scales, foresight needs to integrate research on society and more broadly to engage stakeholders to think creatively about change.



⁵ Annex 2: PPT presentation

⁶ GFAR glossary: Foresight

Participant Expectations

Participants were invited to share their expectations for the workshop. The following key point emerged:

- Gaining a better understanding of current global foresight programmes and the value of foresight
- Building a community of practice for foresight to enable better collaboration across institutions and projects
- Exploring how to make foresight more effective and useful for food policy decision making
- Creating a more structured connection policy processes and scientific processes of foresight
- Improving harmonisation and cross comparability between different foresight initiatives
- Developing creative ideas for how foresight can help to drive change in food systems
- Using foresight to better understand linkages between food availability in developing countries and the global food system
- Clarity about how social justice focused CSOs can benefit from and contribute to the use of foresight
- Developing common projects to improve foresight for the food system

What should food system foresight look like?

To kick off the detailed discussions of the workshop and begin developing a common understanding and language, participants explored their thoughts on what an “ideal” foresight system for the global food system might look like. They also identified criteria by which effective foresight for the global food system might be judged. The results are given below.

AN IDEAL FORESIGHT APPROACH SHOULD...

Be based on a shared understanding of foresight needs and definitions.

To gain a common understanding of food system foresight would be a big step forward; there are currently many different views. Key to this is understanding where to put the “boundaries” of what to consider as part of the food system, and what lies beyond those boundaries that would affect or be affected by the food system (e.g. geopolitical conflicts). Effective foresight needs to be based on a clear understanding of the purpose, hence the need to establish boundaries of what is and is not considered. The SDGs provide a basis for how the boundaries for foresight and sub-systems of analysis could be determined.

Engage the right stakeholders in open dialogue.

Effective foresight must engage the right stakeholders in setting the foresight questions/demands and in considering implications of the outcomes. Foresight needs to be a multi-stakeholder process that recognises the different values and diversity of interests of different groups, and that enables debate about trade-offs such as those between socio-economic and environmental aspects of different agricultural development pathways. Foresight must be a consultative process that goes beyond the academic world and combines technical, social, economic and ethical aspects. It needs to have engagement through key platforms such as the CFS, G20, WEF, etc. Developing capability for stakeholder engagement at local, national and regional scales, as well as at the global level, is critical.

Have legitimate governance.

Global food system foresight efforts need governance arrangements to ensure their legitimacy with key government, business and civil society stakeholders and gain funding that does not bias foresight efforts to particular interests. The politics behind foresight is important to understand. Effective communication and messaging to meet the needs of different stakeholder groups is also important in ensuring legitimacy of foresight efforts.

Support differing purposes.

Foresight needs to be seen as a multi-dimensional process that supports a range of functions, including developing scientific understanding; informing decision making; public and private sector engagement; and advocacy. There is a need to review the existing exercises and carry out a gap analysis in regard to differing purposes. There is also a need to better understand how foresight can contribute to change processes through influencing people’s value systems and perceptions about the food system. The goal needs to be not just to produce a foresight product, but also to provoke discussion and debate. The foresight process in which stakeholders actively engage is as important as foresight reports, and needs to be valued in this way.

Integrate different methodologies and approaches.

Effective foresight for the global food system needs to recognise and integrate different methodologies and approaches that include both quantitative modelling and qualitative, normative, and exploratory methods. These different methodologies need to come together to support “reimagining” food systems and processes of systemic change which allow multi-scale and multi-scope perspectives and are context specific.

CRITERIA TO JUDGE THE EFFECTIVENESS OF FORESIGHT

Utility

- Responds to explicit demands from users
- Provides useful guidance for decision-making and influences policy outcomes
- Users and decision-makers have access to information needed at the right time
- Decisions are made drawing on the evidence and insights from foresight

Inclusivity

- Informed by a diversity of actors and values
- Takes a systemic perspective and set boundaries for analysis that reflect the interests of differing groups
- Different stakeholder groups are able to participate in, access, and make use of foresight studies

Rigor

- There is clear identification of risks and challenges in the food system and the sensitivity of these to differing scenario assumptions
- There is ability for comparable assessment across different geographic areas and times scales

Sustainability

- There are governance mechanisms, resources and capacities to produce ongoing foresight analysis of the food system
- Foresight work is sufficiently valuable and used that key stakeholders provide ongoing support

What's going on in the foresight world?

Representatives from 13 different foresight initiatives presented their work (Power Point summaries can be found in the Annexes as listed below). Following the presentations, there was a series of roundtable discussions which enabled participants to share their work in greater detail and answer any questions.

Further information on these initiatives is also available in the Foresight4Food Background Working Paper.

List of presentations on foresight work and annexes reference

- | | |
|--|----------|
| • FAO, presented by Rob Vos | Annex 3 |
| • OECD-FAO Agricultural Outlook 2016-2025, presented by Josef Schmidhuber | Annex 4 |
| • IFPRI - Global Futures & Strategic Foresight, presented by Keith Wiebe | Annex 5 |
| • AgMIP project, presented by Roberto Valdivia | Annex 6 |
| • IIASA GLOBIOM model, presented by Andre Deppermann | Annex 7 |
| • EU Joint Research Centre foresight work, presented by Anne-Katrin Bock | Annex 8 |
| • World Economic Forum Scenario analysis report, presented by Tim Benton | Annex 9 |
| • GFAR, presented by Marc Holderness | Annex 10 |
| • Foresight in and for the CGIAR, presented by Marie de Lattre-Gasquet | Annex 11 |
| • CGIAR/CCAFS Scenarios Project, presented by Joost Vervoort | Annex 12 |
| • Agrimonde Terra CIRAD/INRA, presented by Hervé Guyomard | Annex 13 |
| • IISD-IFPRI "Ending hunger: what will it cost?" study, presented by Carin Smaller | Annex 14 |
| • TransMango and SUFSANS projects, presented by Monika Zurek & Joost Vervoort | Annex 15 |

Critical Topics for Foresight Analysis

Participants brainstormed the range of topics that they considered key to to the long-term resilience of the global food system, especially if considered by a high-level meeting of political and business leaders . The topics identified are summarised below.



3 DAY TWO - Thursday 23nd March 2017

Participant reflections from day one

The day began with a summary and a review of the previous day’s discussions. Participants paired up and shared their impressions of day one. Some of the reactions included:

- The impressive volume of work being done that they were not necessarily aware of.
- A need for greater understanding for foresight work that the private sector may be undertaking.
- The value of building on the current stocktake and making such information more easily accessible.
- A need for a deeper understanding of efforts in Africa, but also recognition of a lack of capacity in Africa for foresight work.
- Confusion around language, and the need for better-defined terminology and a consistent vocabulary for discussing and explaining foresight with policymakers and the private sector.
- The risk that foresight efforts are too narrow in their “imaginative” scope and only reference narrow possibilities. This problem can be worsened if foresight work is framed by shorter term interests of particular stakeholder groups.
- Remaining big gaps between the foresight work being undertaken and what policy makers need for decision making.

Framing Questions for Day Two

Jim Woodhill revisited the workshop purpose with a key question: “Is foresight work helping to keep food issues high enough on global and national agendas to drive change towards the SDGs?” This question can be broken down as follows:

- Are we providing sufficiently synthesized and visually compelling information to support dialogue, debate, media, education, and advocacy?⁷
- Are we integrating different types of knowledge and perspective for people to feel that it is legitimate work?
- Are we providing a sufficiently integrated and comprehensive perspective on food systems?
- Is foresight then being used to engage leaders in strategic dialogue on transforming the food system to meet health, environmental, inclusive economic outcomes?
- Is it providing the depth of insight and guidance that policy makers and business need for decision-making at global, regional and national scales?

Jim suggested two critical dimensions and processes that had emerged from discussion the previous day: (i) foresight work needs to **balance an understanding of systemic risks and transformational opportunities**, and (ii) the need to **balance the scientific generation of foresight information with stakeholder engagement in foresight processes**.

Critical dimensions	Critical processes
Systemic risks Transformational opportunities	Scientific generation of foresight information Stakeholder engagement in foresight processes

In the context of the workshop objectives and the discussion from Day One, the focussing questions for Day Two were:

- Could a greater collaboration between those working on, interested in or committed to foresight for food systems, be relevant? If so, what forms of collaboration might work?
- Is there a set of key actions this group (with others) could take forward to enhance foresight? For example:

⁷ See stocktake foresight work: Annex 16.

- Joint definitional work on food systems and foresight
- Better directory of foresight work
- Leader level global and regional dialogues on key food systems issues informed by foresight work
- Platform or dashboard that provides easy access to foresight results and key long term trends and issues for the global food system
- Joint working groups on priority issues for improving foresight
- What are the ways improved foresights for the food system could be better resourced?

Stakeholder Needs and Strengths and Limitations of Current Foresight

Participants looked at the needs of key stakeholder groups and then assessed the strengths and limitations of current foresight work relative to these needs and the ideal characteristics and criteria for foresight developed on day one.

Needs of Key Stakeholder Groups
<p>Global Policymakers</p> <ul style="list-style-type: none"> • Global level intelligence on key trends, changes and risks in the global food system and interlinkages with other global issues • Evidence and insight for policy making and investment decisions • Needs and perspectives of other stakeholders • Guidance on how to participate in and use foresight for policy making • Clear and accessible communication of the results from foresight studies
<p>National Policymakers</p> <ul style="list-style-type: none"> • Translation global foresight finding into nationally relevant issues and policy implications • Nationally-owned and driven foresight processes and assessment tools • Effective national level multi-stakeholders foresight dialogues that integrate with national policy and planning • Institutionalized mechanisms for long-term foresight assessments
<p>Business Community</p> <ul style="list-style-type: none"> • Integrated Quantitative/Qualitative, normative and exploratory scenarios to inform business strategy • Relevant to risk and sustainable management of supply chains • Presentation of foresight studies in easily communicable and useable forms • Foresight analysis that is relevant and credible for business decision making • Recognition that foresight analysis may bring liability issues if future risks are made explicit but not acted upon
<p>Civil Society</p> <ul style="list-style-type: none"> • Ability to participate in and influence foresight work including the setting of priorities • Use of foresight for advocacy • Mechanisms and platform to be able to access, digest and translate information into forms that are useful for civil society work • Strengthening capacity to contribute to and use foresight • Collaboration between civil society, citizens, researchers to ensure inclusive approaches
<p>Researchers</p> <ul style="list-style-type: none"> • Identification of research gaps and priorities • Access to better information and data • Open-access repository of data and models • Strengthened and integration of qualitative data with quantitative methods • Better embedding of foresight methods into research
<p>Donors</p> <ul style="list-style-type: none"> • Regular access to foresight results, trends, gaps to help prioritise policy and programming • Creation of a donor community of practice to support the commissioning and use of foresight • Better gathering and use of available foresight information • Global annual foresight conference • Coordinated donor input into a standard set of reference scenarios
Key Strengths of Current Foresight Efforts
<ul style="list-style-type: none"> • Diversity of current initiatives and data. • Growing level of interest in foresight and potential to link with political processes. • Existing experiences of linking with policy such as FAO and OECD work.

- Emerging opportunities to look at food system by breaking disciplinary boundaries.
- A heterogeneous ecosystem of foresight providers.
- Emerging focus on a food system approach that breaks down “silos” and helps people think outside the box.
- Initiatives such as the GODAN⁸ data repository.

Groups also identified additional benefits of foresight, including:

- Consolidated knowledge and intelligence helps to reduce uncertainty for decision making
- Supporting “big picture” thinking and system scale analysis
- Creating shared views of the future to drive new opportunities and policy experimentation.
- Helps to enable decision making based on evidence based trends rather than uninformed opinion.
- Supports policy convergence through engagement with processes such as CFS.
- Enables long term-perspectives.
- Puts national challenges in a global perspective.

Key Limitations of Current Foresight Efforts

1. Lack of an accepted and understood set of **concepts and terminology** for food systems foresight across key providers and users.
2. **Gaps in the biophysical and economic factors** that current food system models take into account which constrains the information base for foresight analysis.
3. Need for greater **engagement of agents** in the overall foresight process - establishing questions, providing perspectives, interpreting quantitative modelling, assessing implications.
4. **Missing “middle”** in foresight analysis there is more work on the production and consumption but less on the processing and distribution.
5. Need for better **articulation of the foods systems problems** (challenges) that demand foresight
6. Insufficient **engagement and communication** between science providers of foresight and policymakers.
7. Lack of **acceptance of evidence based policy** making at a national level which limits the demand for foresight analysis.
8. Disconnection between the worlds of quantitative modelling approaches and qualitative approaches with **different paradigms** and unresolved critiques of limits of quantitative approaches and the subjectivity of qualitative approaches.
9. **Gaps between macro and micro scale** work with inadequately disaggregated data and lack of national specificity, with national level data not seen by stakeholders and as credible.
10. Foresight work perceived as **elitist and non-accessible** with lack of simple and clear communication to enable wider societal engagement and understanding.
11. Difficulty of using foresight to tackle highly **unpredictable extreme events** related for example to climate change or economic crises.

⁸ <http://www.godan.info>

Collaborative actions for improving food systems foresight

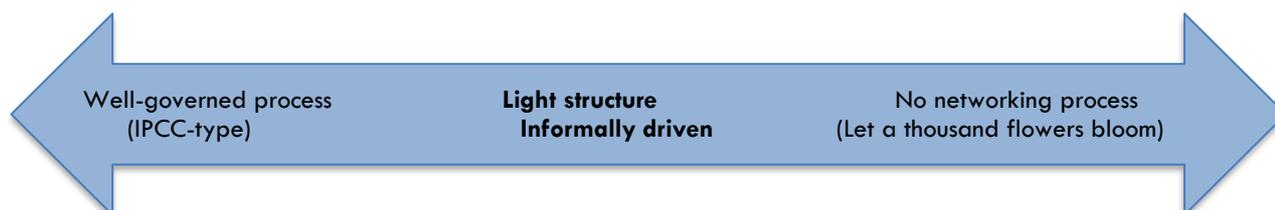
As a result of working group exercises, the participants identified collaborative actions to improve food system foresight. The following six themes emerged, and are further detailed below:

1. Create a global mechanism to support ongoing food systems foresight
2. Strengthen communities of practice of foresight providers and users
3. Enhance regular strategic level dialogue between policy, business, civil society, and science stakeholders
4. Strengthen engagement with private sector engagement on foresight provision and use
5. Create an online resource portal and dashboard of key trends—a “one-stop-shop”
6. Enhance the capacity of key actors to deliver and use foresight analysis

Foresight network and resourcing

As a reality check for taking actions forward, participants were asked to position themselves on two continuums: one regarding the degree of structure required and the other regarding availability of resources for improving foresight. Participants then explained why they stood at a particular point on the continuum.

Degree of structure



The majority of the participants placed themselves in the middle of the line or slightly towards a more structured approach, indicating a preference for a flexible network with common terminology and tools. The general view was that more structured collaboration is needed to improve foresight for the food system, however this needs to be flexible, dynamic and responsive.

Availability of Funding



Most participants were optimistic about funding being available to improve foresight for the food systems, despite a more difficult climate for development funding. It was felt that foresight for the food system was important enough to justify funding, but that there may well be ways of building foresight work into existing or new initiatives as part of “core business”. It was recognised that taking the initiative forward would require resources and that focused efforts in mobilising these would be required, but that there would need to be clear deliverables to aid in building legitimacy. There were also views that substantial progress could be made with modest resources by better linking existing work.

Actions to take forward

The final session of the workshop discussed in more detail each of the areas for future collaboration and identified key actions for each area.

Area	Description	Actions
Global	Establish a global mechanism to	<ul style="list-style-type: none"> • Establish Terms of Reference on the key focus of a

Mechanisms	support ongoing food systems foresight that is linked with existing processes, such as the CFS, and supported by institutions and platforms with mandates for working on food and agriculture. This should be less formal than the IPCC-type process but more structured than the current <i>ad hoc</i> approach.	<p>global foresighting facility</p> <ul style="list-style-type: none"> Identify the key needs of foresight users and how these demands can be connected with foresight users Build networks to strengthen collaboration on foresight between developed and developing countries Create coordinated donor input into standard reference scenario building (common reference elements)
Dialogue	Strengthen global and national level dialogue on foresight between policy makers, business, civil society and science that is informed by foresight studies.	<ul style="list-style-type: none"> Establish an annual or bi-annual global foresight conference to strengthen community building Keep the momentum by fostering ongoing dialogue between foresight stakeholders Set up policy dialogues that link global and national foresight scenarios Take advantage of existing forums and conferences to increase dialogue: eg. South Africa Food Global Food Security Conference⁹, Science Forum, World Food Prize, CFS, WEF, G20
Community of Practice	Strengthen and broaden the community of practice of science institutions working on food systems foresight, and link with key foresight users and funders	<ul style="list-style-type: none"> Establish a community of practice platform enable a sharing of ideas and learning Develop a community of donors to work more effectively in using and supporting foresight Provider perspective: assist in stocktake, harmonization, and reference scenarios Facilitate inclusiveness by bringing together donor/users, providers etc. Donors to invest and establish multi scale foresight platforms
Dashboard and One-Stop Shop	Create a food systems foresight resource portal that enables easy access to key foresight studies and information, and which provides a “dashboard” of key indicators and trends	<ul style="list-style-type: none"> Define the functions of the dashboard and type of information to be shared Start with the mapping and monitoring of foresight work data, repository, standardization, access, and regular on-going documentation (global public good) Clear and informative user interface for foresight tools, data, and methods Regular access to foresight result, trends, and gaps Perform a data gap analysis (including quantitative and qualitative data) Collective translation and documentation of foresight results
Public-private partnerships	Strengthen the linkages between public and private sector actors for generating foresight analysis and for dialogue processes	<ul style="list-style-type: none"> Establish broader stakeholder engagement and public private partnerships for foresight Strengthen the co-generation of policy options (bringing together science and practice) based on foresight analysis and dialogue

⁹ <http://www.globalfoodsecurityconference.com>

		<ul style="list-style-type: none"> • Develop mechanisms for sharing private sector data to deepen knowledge of e food system changes • Work with the private sector to help gain more insight into the “missing middle” (processing, distribution and trade aspects) of value chains • Learn from successful private sector change that happened in food systems • Collaborative on financial risk management (insurance, financial yields, social licence)
Capacity Development	Develop the capacity of key providers and users of foresight information	<ul style="list-style-type: none"> • Carry out a capacity needs assessment to identify key actors and gaps in capability • Establish Regional Centres of Excellence for foresight4food • Invest in the capacity of organizations playing a broker function • Nationally-specific foresight assessments for policy and strategic development of country specific tools (linkages to global foresight) • Invest in understanding how to use social media to get/share inputs and to get a wider buy-in Collaborative action (researchers, CSOs, private sector) scaling up learning of foresight and generate good practice

Closing participant comments on the workshop

Participants were invited to offer any closing reflections on the workshop. Some of the reactions included:

*The convenors who brought us here did an excellent job of keeping us on track and I'm very pleased that to see that **we do have a momentum to move forward**. I didn't hear quite as much as I hoped to about the demand and the application of foresight, but with the momentum to organize ourselves, to put it together well, we'll be able to build on relationship with those who use the products...*

*It is very much about **collective action**. We don't necessarily know the answers or even the questions of some of this. There is a huge demand in Africa from farmers, public research, the private sector etc. to take responsibility for their own future. **The whole community needs to own foresight efforts and see the rationale behind its use**;*

*I was excited to meet people **speaking the same language around foresight**; I feel this was a benchmark meeting. The challenge ahead is that there is so much to do, so I think there is really a need to **focus on a clear set of priorities**. What we do need is to have a clear understanding of what is the real demand for foresight from big companies, national policy decision-makers etc.*

*The private sector is doing a lot of in-house foresight work, I'm pleased to be here and look forward to see how we can engage in a networking process with **public and private sector stakeholders**; We talked about the missing middle... that is still missing. We talked about production and consumption but donors are facing challenges in between such as food safety for example. We should have a better grasp of that and ensure that we have representatives from the private sector, to see what's working and why; This workshop comes at the right time but the hard part now will be to keep the momentum and to make it happen!*

Closing words from John Ingram

If we live in a changing world, we need to have the tools to cope with it. Foresight is very much part of the toolbox. How do we get it right? Thinking back to the top question asked yesterday about "what constitutes a good foresight", I would say, "one which is fit for purpose." We had a wealth of materials; now it would be wonderful to organize that in such a way that is highly synergistic. There is a great value in collaboration, and it can start relatively small to make sure it's on the right path, but it can certainly grow. I like the idea of communities of practice, both in terms of foresight development and foresight communication with the user community. The challenge now is to keep things going so I would like to thank the group that will help this move forward and the agencies that contributed to funding this workshop. Thanks to all of you for being part of it.

Follow up working group

A significant number of the participating organisations indicated their interest to work on the next 1 steps towards establishing a Foresight4Food initiative. It was agreed to convene a follow up working group and to convene a meeting within 6 weeks.