



FOODSECURE
FOR POLICIES THAT MATTER



FOODSECURE conference “Policies that matter”

**A policy & science forum on Europe’s role
in eliminating global hunger and malnutrition**

**12 October 2016, 9:00-18:00hrs, The SQUARE, Brussels
Co-organised with FOOD 2030**

Proceedings of the conference

INTRODUCTION

Challenges facing decision-makers in the global food system

The current distress to food consumers and farmers related to El Nino illustrates that food and nutrition security concerns require continued and strengthened attention from decision-makers in the realms of policy and business. Nutrition security, inclusive and sustainable agricultural growth and social protection are also commonly seen as cornerstones for meeting the Sustainable Development Goals against a background of relatively tight food markets and variability in global food prices.

Indeed, there are concerns that food and nutrition security (FNS) might decrease in the future across the world. At the same time, macroeconomic stagnation and rising challenges with the double burden of malnutrition provide an incentive for many developing countries to strengthen the contribution of their farmers to national economic growth, poverty reduction and a stable and nutritious food supply.

Policy makers and opinion leaders, however, often lack sufficient information to gauge the likely effects of fundamental changes in global and domestic food markets on their country. An effective policy dialogue will benefit from an unbiased and rigorous assessment of the approaches for addressing food and nutrition security which include, for example, the right to food, international trade and sustainable agricultural intensification. The research project FOODSECURE has responded to this call for evidence and tools to design effective and sustainable strategies for assessing and improving global FNS, now and in the future. See www.foodsecure.eu for more information.

Conference objectives

The conference “Policies that matter” provided a policy & science forum on Europe’s role in eliminating global hunger and malnutrition. Reflecting the approach adopted throughout the project, in this final conference FOODSECURE researchers engaged with interested policy-makers and stakeholders during a one-day event to present, share and discuss their research results and findings as well as policy recommendations.

The event was co-organised with the high-level event “FOOD 2030: Research & Innovation for Tomorrow’s Nutrition & Food Systems”, which explored what is needed to transform and future-proof our food systems for future food and nutrition security. FOODSECURE’s policy & science forum defined and underlined the global and international relations in EU’s research & innovation towards 2030. The forum’s outcomes were presented to the plenary of the high-level event on 13 October.

Audience

The audience brought together policy and decision makers on FNS in the European Commission, the EU and beyond, with those from civil society, private sector and academia that have a stake in a global strategy for FNS. See Annex I for a full list of participants.

Scientific committee

Hans van Meijl (LEI Wageningen UR), Jean-Christophe Bureau (INRA), Joachim von Braun (ZEF), Jo Swinnen (KU Leuven), Maximo Torero (IFPRI), Nicolas Gerber (ZEF), Petra Berkhout (LEI Wageningen UR), Thom Achterbosch (LEI Wageningen UR)

Organizing committee

Nicolas Gerber and Alma van der Veen (ZEF), Thom Achterbosch and Petra Berkhout (LEI Wageningen UR). Contact email: foodsecure@wur.nl.

PROGRAM

8.30-9.15 Registration (Ravenstein Entrance)

9.15-10.15 Opening session – plenary room (The Arc)

Moderator: J. van der Vorst (Wageningen Econ. Research)

Welcome address by the host: Wolfgang Burtscher, Dir. B, DG Research and Innovation of the European Commission

Assessing and addressing global food and nutrition security, Hans van Meijl/ Thom Achterbosch (Wag. Econ. Research) ([presentation slides](#))

Key messages and short pitches to the parallel sessions, by the 6 leading speakers of parallel sessions 1 and 2

10.15-10.45 Coffee break (The Arc Foyer)

10.45-11.45 Parallel sessions 1A-C: A policy agenda driven by novel evidence on the determinants of global food and nutrition security (FNS)

1A. Consumer behaviour and household access driving food and nutrition insecurity in EU and beyond	1B. Linking empowerment, innovation and resilience – evidence from farm households	1C. Volatile agricultural commodity prices and instability along the food value chain
Room: Meeting Studio 313 Speakers: Elena Briones Alonso, KUL Jan Pokrivcak, SAU Opening policy statement: Betty Lee, DG AGRI Moderator: Nathalie Francken, KUL	Room: Meeting Studio 315 Speakers: Nicolas Gerber, ZEF Martina Bozzola, IHEID, Opening policy statement: Bernard Rey, DG DEVCO Moderator: Lilian Kirimi, TEGEMEO	Room: Studio 311 Speakers: Christophe Gouel, INRA Mekbib Haile, ZEF Opening policy statement: Carl-Johan Linden, DG AGRI Moderator: Maximo Torero, IFPRI

11.45-12.00 Change of rooms

12.00-13.00 Parallel sessions 2A-C: How do future FNS challenges shape EU policy action in meeting global sustainability and hunger and nutrition goals?

2A. Inequality and inclusiveness: Long term scenarios and robust policy response	2B. Environmental sustainability of the food system: Long term scenarios, robust policy responses and the 1.5°C warming	2C. Food price peaks and lows: what information and regulations to avoid extreme events?
Room: Studio 311 Speakers: Lindsay Shutes, Wag. Econ. Research, Sebastien Treyer, IDDRI Moderator: Ruerd Ruben, Wag. Econ. Research Discussant: Jean-Pierre Halkin, DG DEVCO	Room: Meeting Studio 313 Speakers: Elke Stehfest, PBL, Hugo Valin, IIASA Moderator: Tim Swanson, IHEID Discussant: Simon Kay, DG CLIMA	Room: Meeting Studio 315 Speaker: Maximo Torero, IFPRI Moderator: Luca Salvatici, URoma3 Discussant: Pierre Boulanger, EC-JRC

- 13.00-14.00 Lunch (The Arc Foyer)
- 14.00-15.30 Policy panel – “EU policies and global FNS” (The Arc)**
 Introduction and moderator: Jo Swinnen (KU Leuven)
 JC Bureau (INRA) on alignment of European farm & trade policies with FNS
 Lara Cockx (KU Leuven) on greater impact of EU development aid
 On the policy panel: Mahendra Dev (IGIDR), Jean-Pierre Halkin (DG DEVCO, tbc),
 Tassos Haniotis (DG AGRI)
- 15.30-16.00 Coffee break (The Arc Foyer)
- 16.00-17.30 Science panel – “A helpful research and policy frame for global action and governance of FNS” (The Arc)**
 Introduction and moderator: Joachim von Braun
 Panelists: John Bell (DG Research), Ousmane Badiane (IFPRI), Alan Matthews (University of Copenhagen), Willis Kosura (University of Nairobi), David Zilberman (UC Berkeley)
- 17.30-18.00 Wrap-up and closing of the FOODSECURE conference
 “Navigating the complexities of FNS: the legacy of FOODSECURE”, Hans van Meijl (LEI Wageningen UR)
 “Invitation to the FOOD 2030 conference”, John Bell (DG Research)
- 18.00-20.00 Reception and buffet in the project village of the FOOD 2030 conference, hosted by DG Research & Innovation, European Commission

PROCEEDINGS OF THE PARALLEL SESSIONS

Session 1: A policy agenda driven by novel evidence on the determinants of global FNS

Does the latest evidence on the causes of hunger and malnutrition imply revisions to the current policy agendas on FNS? The endurance of poverty and inequality, not unavailability of food, is the main cause of chronic malnutrition, but what is the interplay of various causes and mechanisms? In a set of parallel thematic sessions, policy-makers and researchers from the FOODSECURE consortium will discuss with the audience key messages for reviewing the EC's policy priorities on addressing the root causes of food price volatility, malnutrition and food insecurity.

Session 1A. Consumer behaviour and household access driving food and nutrition insecurity in EU and beyond

Abstract

By limiting access to education, land, finance, or labour markets, discrimination and social exclusion can constrain income generating opportunities and thereby undermine food and nutrition security. This issue presents itself in the EU as well. Original FOODSECURE research finds that people of lower socioeconomic status and socially excluded groups, such as single mothers, the elderly, and ethnic minorities continue to be particularly vulnerable to food and nutrition insecurity. There is also insufficient attention for culture and the traditions around food consumption. Indeed, even the definition of healthy eating is culture-driven. These factors are typically poorly embedded in strategies and analyses of FNS. This session highlights new findings on the FNS impacts of such drivers and discusses the policy options to address them.

The powerpoint presentations and an executive summary can be found [here](#):

Elements of the discussion with the participants to the session:

- At EU-level there is no food and nutrition policy. Food policy cross cuts many sectors and themes.
- Overall objective CAP is to assure availability food and make sure that agricultural production takes place within environmental limits.
- CAP is now more market oriented than it used to be.
- It is vital to enable the agri-industry to supply food in the long term.
- In the EU: access and utilisation of food are more important than availability.
- Key question in the next CAP reform is whether or not the EU should do more in the area of food and nutrition. Currently, the EU cannot do much in the area of food access and utilisation. The only exception are the school fruit and vegetables programmes, and the milk programme.
- CAP needs to strengthen the production of healthy diets, preventing food waste etc., but without spending more money it is difficult to see what the CAP can do at the level of food and nutrition. At the next reform there could be a real shift in orientation of the CAP.
- Very few countries have nutrition and health situation reports in the EU. The UK has. The EU could stimulate other countries to make such a report, as a basis for policy measures.
- In the EU there are groups – like the Roma – who could benefit from healthier diets and food policy.
- Is it sufficient for the Roma to focus on food/diets to improve their health? Or should the focus be on wider integration? In Spain the focus has been on the latter, with success.

- Education might take cultural differences in account for instance, or might help in overcoming certain cultural taboos that prevent healthy diets.
- Should and can we achieve cultural changes? Certain beliefs are very persistent, but narratives can be helpful in changing beliefs.
- A food policy at EU-level can be helpful in coping with the growing inequality in the EU, dealing with undernutrition and obesity.

Session 1B. Linking empowerment, innovation and resilience – evidence from farm households

Abstract

As agriculture faces new challenges, technological change and innovation are set to play an increasing role to strengthen nutrition security, empowering small farmers within an agricultural resilient to global environmental change. This session first discusses new micro-level evidence from Sub-Saharan Africa on the role of farmers' internal or psychological constraints to innovate as determinants of their inclusion in the innovation system. Second, it extends the discussion to other divers of technology (e.g. hybrid seeds) adoption, also discussing whether the intensity of adoption of hybrid seeds affects the economic resilience of smallholder farmers, by looking at its impacts on income and production risk for stallholders farmers.

The powerpoint presentations and an executive summary can be found [here](#):

Elements of the discussion with the participants to the session:

- The perspective of EC – DG DEVCO on agricultural innovation is one of a strategy to meet developmental goals, where key points are:
 - economic agenda: agriculture as an engine to growth and jobs – development of new value chains and financial tools;
 - FNS agenda: agricultural innovations must help decrease mal- and under nutrition;
 - global sustainability agenda: make 40% of investments in the agricultural sector relevant to actions on climate change;
 - humanitarian agenda: ensure resilience to food crises (with DG-ECHO) through new solutions (e.g. food reserves in Africa).
- In that context, the strategies of DG DEVCO w.r.t. agricultural innovation focus on an Agricultural Innovation System approach – moving away from linear models of innovation diffusion to support science-based agricultural developments through the national research systems and to support the delivery of science to the field and the farmers;
- The EC strategy on the ground, to bring a lot of stakeholders together, is connected to the notions of farmers aspirations as drivers of innovation and FNS – through the concept of aspiration window (i.e. the known world of the farmer, in which he/she sets references of achievable outcomes) – but could be strengthened by explicit consideration of the aspirations mechanisms;
- The role of other actors, institutions etc. in the process of agricultural innovation is crucial: is looking at aspirations not putting the responsibility on the farmers? Response: Aspirations are only specific constraints for individual farmers in the innovation process – removing them still requires multi-stakeholder engagement;
- The transformation of agriculture in developing countries: the two presentations focus on agricultural innovation from the demand side (farmers as “buyers” of innovation), but are we not over-emphasizing the role and importance of poor farmers and trying to keep them in

business at high costs? What about the richer farmers, who have economic, productivity potential and supply local/national markets? Response: would interventions on aspirations not help identifying “efficient” and “productive” farmers in this transformation process?

- The issue of seed counterfeiting is indeed a major issue in some SSA countries, which also affects the level of trust and experimentation. Who sells the seeds? What is the certification system in place?

Session 1C. Agricultural commodity prices and instability along the food value chain

Abstract

Policies for food commodity price stabilization have been implemented in a range of countries, with various degrees of success. This session reflects on the optimality of these policies in small and large country settings, as well as on the costs of such policies to the different sectors of the economy. Second, the session considers how international food commodity prices are transmitted to national markets, and from there to the national prices for actual food products, using the example of the wheat value chain in Ethiopia.

The powerpoint presentations and an executive summary can be found [here](#):

Elements of the discussion with the participants to the session:

The FOODSECURE work inspires ongoing policy discourses on two distinct dossiers within the EC/DG AGRI – both have a European focus. The first relates to price volatility on agricultural commodity markets, which was extensively studied by the FOODSECURE team; the other relates to the functioning of the food chain.

Regarding the food chain, the EC identified major knowledge gaps around assessing the policy agenda on the (im)balance of bargaining power among farmers, commodity traders, processing companies and retail. Examples of arrangements that might entail “unfair trading practices” include late payments to farmers, squeezed profit margins, and contracts with retail on shelf space.

The recent foremost attention for food price volatility in the policy debate has faded during the relatively stable years on global commodity markets. For the full three years from 2013 to 2015, the early warning tool developed between IFPRI and the FOODSECURE project has reported no “excessive volatility” on any of the global agricultural commodity markets.

The FOODSECURE team urges the EC to prepare its agricultural policy framework for a return of more volatility in the future due to tight agricultural markets and cascading risks of extreme weather events and policy failure. In addition, several arguments were presented that suggest a continued evaluation of the capacity of the CAP to prevent and/or mitigate instability on global agricultural commodity markets. Examples discussed included:

- EU import quotas for wheat reduce the transmission of price volatility to EU consumers, thus giving rise to benefits and costs inside and outside the EU;

- Storage policies in the EU, e.g. those recently used for dairy, might have been successful on their European objectives but potentially have continued implications for price stability on global markets

A final element in the discussion pertained to the design and implementation of an optimal storage policy. The extensive material from FOODSECURE on this topic contributes to a consensus among economic experts that storage policies can be an effective instrument to secure food supply for a needy

population in times of crisis; the use of storage schemes as instruments for stabilising domestic food prices has been assessed as an ineffective use of fiscal resources. A suggestion was raised to organise food storage schemes at the level of regional cooperation bodies. This option received enthusiasm for its ability to pool fiscal resources and risk across the participating nations, as well as due scientific scrutiny because of the innate difficulty around the design and implementation of any storage scheme having to do with volume, release mechanisms, market impact, etc.

Session 2: How do future FNS challenges shape EU policy action in meeting global sustainability and hunger and nutrition goals?

Mitigating food and nutrition insecurity requires multi-pronged policy strategies combining immediate relief interventions with long-term sustainable actions. However, policy reform or price change rarely bring about uniform socioeconomic impact. The FOODSECURE project actively engages with stakeholders of the food system to guide the development of scenarios for modelling and policy analysis. The main axes along which the stakeholders have shaped scenarios for the future of FNS are environmental sustainability and social equity. Differentiated impacts and scenarios greatly enhance the complexity of forward-looking FNS modelling, thus informing a European policy strategy on FNS.

2A. Inequality and inclusiveness: Long term scenarios and robust policy response

Abstract

Inequality and poverty are major determinant of the perpetuation of food insecurity and malnutrition, and must be understood within a complex interaction of power balances and gender dynamics regarding access to household resources and upward socioeconomic mobility. Yet they are often ignored in foresight studies on FNS, even at the basic level of income distribution. How will changes in the income distribution, particularly in Africa over the coming 15-30 years have an impact on food access and diet diversity? Using innovative research methods, FOODSECURE explores this question for a range of household types in the context of other drivers of food system outcomes, such as population growth, urbanisation, climate change and technological change, within a set of scenario storylines developed with a knowledgeable stakeholder audience. Next the session addresses the large unfinished agenda for nutrition action. Solutions to overcome the triple burden of undernourishment, malnutrition and overweight are related – from the individual to the system level – to how food is consumed, how it is distributed and processed, and to the way that crops are grown, livestock kept and land is cultivated and conserved. A policy frame is needed therefore, that links sustainable food systems to an agenda for improving diets and nutrition, and addresses the following component: dynamics of FNS over individual people's lifetime, household, country and regional; resilience to short term shocks of households and communities; medium and long term sustainability of food consumption, distribution and production. A vision of the EU and other major players is needed to strengthen the international governance of FNS based on this improved policy frame.

The powerpoint presentations and an executive summary can be found [here](#):

Elements of the discussion with the participants to the session:

- Science is central to efficient and good development assistance.
- Economic growth by itself does not guarantee food security. The models have confirmed this once more.
- Foodsecurity is about governance as well. Governance is central to long term investments.
- With development policy you need different recipes for different situations.
- Social mobility: where are the people going to? In Ghana we see more problems with food security if people go to the cities, as they have no work, no land, no house etc.
- There is a difference between jobs and economic growth.

- Double food production per capita with less resources => how do prices form along the value chain, who invests and who takes the profits? Plus a certain level of stability is necessary for investments. Value chain approaches can help.

2B. Environmental sustainability of the food system: Long term scenarios, robust policy responses and the 1.5°C warming

Abstract

An analysis using original FOODSECURE scenarios suggest that agricultural output expands over a range of 45-65% between 2010 and 2050, with assumptions on growth and technological progress driving much of the results. This session discusses the implications of strategies for agricultural output growth and land use, under various degrees of environmental protection. There are apparent trade-offs and synergies between agricultural intensification and extensification strategies across agricultural production regions. In this session, policy options are presented to address food system sustainability with more immediate and longer term objectives. The options are put on a scale of time and responsiveness for improving the food system. Next, the session focuses on the recent political breakthrough under UNFCCC to pursue “efforts to limit the temperature increase to 1.5 °C above pre-industrial levels” and investigates how it holds great promise or constraints for agriculture and food security. Agents in the food system are challenged to contribute substantially to mitigation efforts to achieve this ambitious climate change stabilisation target. Several mitigation strategies are potentially in competition with food production. Particularly in low and middle income countries, the coherence of climate action and FNS requires due attention. Development of the bioeconomy can reduce the costs of mitigation.

The powerpoint presentations and an executive summary can be found [here](#):

Elements of the discussion with the participants to the session:

- Agriculture must contribute to decreased emissions, but how? In practice:
 - EC perspective: combinations of solutions, linkages across policy action domains, and innovative pathways must be brought to the field.
 - How to achieve the required diet change? Price signals have been tried, not popular – so how to bring diet change into policy? Focus research on consumption behaviour rather than availability/productivity? EC is engaging with industries directly – developing new production lines that offer alternatives to animal-based protein are in their interest.
 - Biomass energy (much emphasized in scenarios) – is the suggested scale at all in the realm of the politically, socially and economically possible?
- Role of EU: 10% of emissions (reductions), but more importantly: showing path to address the issue, in particular by innovating. Role of livestock sector is receiving much attention in EU, instruments to decrease its emissions are part of the Paris climate deal, including leakage effects through fodder production.
- Crop productivity/agricultural intensity and land conversion are not linked directly – and increased productivity may lead to increased deforestation (leakage effects): does this point to more regulations and protection of natural areas? Often ignored are the latter’s positive impact on FNS.
- Scenarios do not point at productivity gains versus diet change – both are effective but: they proceed from different paradigms (produce more versus produce less, respectively) and concern different production systems (e.g. increased productivity in Africa is much needed).

2C. Food prices peaks and lows: what information and regulations to avoid extreme events?

Abstract

While global agricultural commodity markets are relatively stable in recent years, market fundamentals point to a higher likelihood that price peaks and price dips will be observed in the future. Such abnormal or “excessive” food price volatility is aggravated FNS risk through implications for consumers, producers and supply chains, concerning and beyond what can be regarded as acceptable in an increasingly globalized world. This session discusses the options to mitigate or pre-empt such episodes of excessive volatility and their consequences. In this session, policy options are presented to address market instability and the impact of food price shocks with more immediate and longer term objectives. Policy options include early warning systems, global transparency, global and regional trade cooperation, and regional emergency food reserves to pool risk at a supra-national level. The analyses are underpinned by original contributions to the literature and results from a modelling framework of the global food system.

The powerpoint presentation and an executive summary can be found [here](#):

Elements of the discussion with the participants to the session:

Global commodity trade is vulnerable to shocks in markets. Shocks ripple swiftly through the trading system due to the globalisation of supply chains and trade relations, and are increasingly difficult to contain.

A metric for determining the urgency of policy action on volatility was developed. It indicates the number of days in which market volatility is excessive, i.e. beyond the “normal” volatility. As the metric was generally accepted as a state-of-art and useful addition to the tools available for early warning on commodity markets, the discussion evolved on the general issue of informing policy on increased risk levels.

The Agricultural Market Information System (AMIS), collecting information on stocks and use, brings substantially improved market transparency yet has nonetheless received insufficient support across countries and stakeholders to reach its potential as an effective coordination mechanism. The discussants agreed that strengthened global coordination in addressing excessive price volatility is the preferred alternative.

Major issues pertain to the interaction between global price volatility and volatility of domestic prices. The European Commission invests in an African prices database that records prices across 125 market places in Africa for 25 commodities at a bi-weekly frequency. Such a database can be developed with increasing efficiency by means of advances in ICT.

As the rationale for public food storage schemes is expected to be strengthened across countries, the capacity to effectively manage storage schemes is an increasing concern. Economic evidence is as yet inconclusive in providing practical guidelines for their proper management. A major challenge is posed by private sector operations that potentially counteract the effectiveness of public schemes. Regional storage systems, i.e. a multi-country approach, are an interesting option, although potentially even more complex than national schemes.

The global and regional trading systems are possibly underutilised for their potential to safeguard the stability of domestic food prices.

Policy panel: Policy panel “EU policies and global FNS”

Various EU policies and global agreements have impact on the challenges of eliminating hunger and malnutrition in the low and middle income countries. Policy domains with major potential impact and bearing on FNS include development cooperation, agriculture and commodity markets, trade agreements, environmental policy, bioeconomy, renewable energy and climate action. EU’s research and innovation policy is addressed in the science panel.

The purpose of this session was to present key messages for EU policy making from the foodsecure research. After an introduction on “EU policies and global FNS” the moderator invited presentations of policy messages and the panel, including the main EC directorates that they address, for a 1st response. This was followed by Q&A with the audience, invited to actively engage and provide perspectives from further EC directorates and stakeholder groups.

Agriculture, trade and climate action

European policies affecting global markets. What is a balanced strategy towards EU policies affecting FNS through their impact on global agricultural markets? Good soils, water, biodiversity are determinants of long term food and nutrition security but EU agricultural policy does a poor job at protecting natural capital. EU agricultural, bioenergy and environmental policies have indirect global impacts that must be taken into account. EU trade policy has ambiguous food security and environmental impacts that should be considered explicitly in sustainability impact assessments for their combined implications for FNS.

The powerpoint presentation and an executive summary can be found [here](#):

Aid, governance and policy coherence

Coherent and effective aid. The effectiveness and coordination of EU aid for food and nutrition security. In the aftermath of the world food price crisis, the international donor community has repeatedly underlined its commitment to combat hunger in the world. This session aims to improve our knowledge on what activities donors are currently engaging in and which interventions have been shown to be successful. In addition, particular attention will be paid to the coordination of EU aid as it is widely assumed that the effectiveness of development assistance is severely hampered by donor proliferation, aid fragmentation and lack of coordination.

The powerpoint presentation and an executive summary can be found [here](#):

Elements of the discussion of the panel and the participants to the session:

- Agri-food systems have changed dramatically. Great difference between what prices farmers get and what other actors in the chain get.
- There is a need to go from fair trade to fair share.
- Hunger has decreased in developing countries. Investments and actions should be aligned with the priorities of the developing countries. Malnutrition is concentrated in Africa and South-Asia. Business as usual will not lead to zero hunger.
- The farm size in developing countries is sinking. They need access to services.
- We cannot directly connect what we do on agriculture with nutrition.
- To solve FNS we need to solve the overall economic problems of uneven distribution.

- Progress is needed in knowing more about the impacts of policies, for instance on social transfers.
- There is progress in joint programming and in global assessment of food crises.
- There is a need to address the consequences of food crises and the root causes of food crises.
- Foodsecurity in the EU is a different issue from food security in the world. We maybe overestimating the production potential in the EU and should also focus on preserving production potential.
- EU-policies need to be coherent with global FNS. Are they? CAP-reform has made CAP more coherent, but it is still far from perfect.
- What is f.i. the real objective of EU development policy?
- EU development aid is not necessarily geared at the countries that are most in need, a lot of other incentives play a role as well (did the country receive aid in another area f.i.).
- Food price volatility is a difficult issue, currently rather stable prices. This doesn't mean problem is solved.
- In what areas are the EU and other major players moving to solve the price volatility issues? Do we have the proper tools to cope with price volatility issues?

Science panel – “A helpful research and policy frame for global action and governance of FNS”

Many drivers are in place which pull humankind away from a world combining equality/inclusiveness and sustainability. How can research and knowledge redress this trend and how can science policy makers support such efforts?

Whereas ample R&I in the food system is focused on the second objective, FOODSECURE research underlines that equity and inclusiveness also requires research and innovation. The purpose of this session is to strengthen the EU's FOOD 2030 agenda on the equity and inclusiveness dimensions of our global food systems with regard to the following overarching priorities:

- Reducing hunger & malnutrition, addressing food safety and diet-related illnesses, and helping citizens adopt sustainable diets and healthy lives
- Boosting innovation and investment, while empowering communities
- Building climate and global change-resilient food systems
- Implementing sustainability and circular economy principles throughout food systems.

After an introduction on “A helpful research and policy frame for global action and governance of FNS” the moderator invited statements from the panel and actively engaged the audience in a Q&A session.

Elements of the discussion of the panel and the participants to the session:

- Over the last six years the food situation has improved, but new problems have arisen and new risks have emerged.

- The market situation has changed (f.i. less volatile prices). Global share agriculture GDP is 4% (6 years ago it was 6%). The structure is changing. Services is the vast amount of GDP.
- There is no science agenda embedded in the sustainable goals agenda (SDG's).
- We need a system approach. There is no bio-economy without FNS. It is about food and **nutrition** security. We need to take a food systems approach at all the levels (like alternative proteins and the effects thereof).
- The research community should step up her ambition to find solutions that will allow policy makers to reach the 9 SDG's goals that are directly or indirectly connected to agriculture.
- Food security has improved in the EU, but there are many challenges to our food system like patterns of food intake, food production methods overstepping the boundaries of the environment, a growing number of people reliant on food banks.
- A broad range of emerging technologies will profoundly affect agricultural production. Social innovations will also influence the current food landscape. Is there a role for policies in shaping these innovations? Policy could take away barriers that hamper innovations. Public policy should also look at equitable sharing of benefits and at facilitating adjustment.
- The hunger spots are in Africa. Africa has weak institutions and a weak infrastructure. Yield gap is an issue. The yield gaps are amazing, this really requires more research. Also, post-harvest losses are high. Africa is a net-importer of food. Money used for imports could be used elsewhere if the sector were better organised.
- The land issue is another factor. Two thirds of the land in Africa can be used for food production, but is not used due to constraining factors like rainfall. Africa could be the breadbasket for the world with the proper investments.
- The agribusiness value chain is important as well in bringing about change.
- Even in Africa agriculture has become technologically intensive. Problems tend to be local and have local solutions. Solving the problem requires productive growth. Investing in the skills, knowledge and health of farmers.
- This is the century of biology, of biofortification, of information technology and enhanced logistic systems.
- Innovation alone is not enough, you need to bring in the private sector to move technologies. Public and private sector need to work together to bring innovations about, improve the outreach. You need sound regulations
- You cannot implement innovation without sound supply chains. Bring in the private sector to finance. Develop policies that enable these types of partnerships between public and private (there is very little public involvement in Africa in these issues). Build enabling policies.

Wrap-up – 5 take home messages

1. The framing of the broader context of FNS and agricultural innovation will take in knowledge based bioeconomy.
2. The EU needs to watch over its external effects of its policies and mobilise science to come to sound domestic food policy.
3. Scaling up science in the CAP after 2020 will be important and an opportunity.
4. We need to focus more on public goods embedded in FNS, such as healthy diets, safe food, dealing with risks, safeguarding food cultures.

5. We need some global arrangements which take a look at existing panels and arrangements. IPPC has led to COP 21, a similar initiative is needed for FNS as well.

Annex I – list of participants

Last name	First name	Company	Function
ACHTERBOSCH	Thom	Wageningen Economic Research	Sr researcher/FOODSECURE coordination
ALEXANDRI	Cecilia	Institute of Agricultural Economics, Romania	Director
ARNOLD	Thomas	European Commission	
BACHMANN	Hans - Peter	Agroscope	Head of the Institute for Food Science
BADIANE	Ousmane	International Food Policy Research Institute (IFPRI)	Director for Africa
BASINSKIENE	Loreta	Kaunas University of Technology, Lithuania	Head of the Department of Food Science & Technology
BELL	John	European Commission	Director
BERKHOUT	Petra	Wageningen Economic Research	Senior researcher
BONNET	Didier	Cargill R&D Centre Europe	Global Food Research
BOULANGER	Pierre	Joint Research Centre	Research fellow
BOZZOLA	Martina	Graduate Institute Geneva & ETH Zurich	Postdoctoral Research Fellow
BRIONES ALONSO	Elena	LICOS - KU Leuven	PhD Researcher
BUCHHOLZER	Florence	European Commission	Advisor Foresight, Impact Assessment
BUREAU	Jean - Christophe	AgroParisTech & INRA	Professor and Chair
BURTSCHER	Wolfgang	European Commission	Deputy Director-General
CALLENIUS	Carolin	University of Hohenheim, Research Center Global Food Security and Ecosystems	Managing Director
CARAFFINI	Andrea	World Food Research and Innovation Forum	strategic project manager
COCKX	Lara	KU Leuven	PhD Researcher
CREMASCHI	Maria Cristina	Emilia Romagna Region	Policy officer
DAVIES	Chantel	Growing Research International	
DE CAO	Gianpietro	European Commission	
DE VOS	Liselotte	Flemish Government, Department EWI	Policy Advisor
ECKERT	Sebastian	University Bonn, Center for Development Research (ZEF)	Press and Public Relation
FABRE	Pierre	European Commission	Policy officer
FAN	Shenggen	International Food Policy Research Institute	Director General
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HANIOTIS	Tassos	European Commission	Director
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Last name	First name	Company	Function
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KLEIN LANKHORST	Rene	Wageningen UR	Managing Director BioSolar Cells Program
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KUIPER	Marijke	Wageningen Economic Research	
LANDOLFI	Alice	European Public Health Alliance	
LEE	Betty	European Commission	Policy Analyst
LEGOWSKI	Mariusz	European Commission	
LINDÉN	Carl - Johan	European Commission	
LUCA	Lucian	Institute of Agricultural Economics, Romania	
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MATHIJS	Erik	KU Leuven	
MATTHEWS	Alan	University of Dublin	Professor
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MITTERMAYER	Felix	European Commission	better regulation
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THOMPSON	Jennifer	Concern worldwide	Advocacy
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TORRES	Danielle	EMBRAPA - Brazilian Agricultural research Corporation	Researcher
TOWEY	Olive	Concern Worldwide	Head of Advocacy
TREYER	Sebastien	IDDDRI	Director of programmes
UBOLDI	Adamo	european commission	
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