Workshop Report

25 June 2021

FACCE-JPI: harnessing joint programming
to support transformation of Food Systems

SESSION 1: What changes to agricultural production are required for transformation of Food Systems?

Joachim von Braun – *Emerging Propositions for Science Actions for the UN Food Systems Summit*

Joachim von Braun outlined the overall priorities for the summit as well as those specifically related to science and innovation and science policy

- **Emerging priorities for the Summit**: nourishment; reduced impact on climate and biodiversity; improved livelihoods and wellbeing; empowered communities; resilience strengthened; science, knowledge and innovation
- **Science and innovation priorities for the summit**: innovations to end hunger and increase availability and affordability of healthy diets; de-risk food systems; fair land, credit and labour arrangements; bioscience innovations; innovations for soils, land and water and to protect the agricultural genetic base and biodiversity; innovations for sustainable fisheries and aquaculture; digital innovations
- Joachim von Braun also highlighted two recent papers put together by the Scientific Group of the Summit
    1. **Synergies and trade-offs**: we need to look at the impacts of different interventions, e.g., adopting healthy diets and determine the side-effects and indirect effects
    2. **True cost of food**: unfortunately, sustainable and healthy food is too expensive, and unsustainable and unhealthy food is too cheap
- **Science policy options for food systems innovation**: the food systems science-policy interface needs a stronger framework (at national and regional levels); science and innovation investments need to be accelerated; international sharing of science and science infrastructures; connecting the UNFSS with the climate and biodiversity agendas and recovery from Covid-19; innovation in financing the transformative agenda

Kerstin Rosenow – *The Views of the Commission for Food Systems Transformation*

Kerstin Rosenow presented the Commission's priorities and specifically those of DG AGRI for transformation of Food Systems within the context of the European Green Deal and the Farm to Fork Strategy

- Research & Innovation will be key enablers of the ambitious targets (only nine growing seasons to 2030) of the Farm to Fork Strategy, which is key to the European Green Deal;
- **Commission wants to focus on following actions**: demonstration networks on climate-smart farming; agroecological approaches, including agroforestry; fostering the resilience of agricultural production; resilient livestock farming; intercropping and breeding for root-based traits will also be a priority
- **Three main priorities** for protecting the environment and biodiversity: boosting organic framing; protein crop systems; digital technologies; mission-based focus means that for the

first time there will be direct cooperation between R & I and the Common Agricultural Policy, specifically, the Mission on Soil Health and Food; the Partnership on Agroecology Living Labs and Research Infrastructures; Partnership on Agriculture of Data
- The EU is also committed to promoting sustainability from farm to fork through partnerships with African countries and China and international research consortia
- At a project level, the Commission is strongly supportive of a multi-actor approach and co-creation (will be legally required) and of interdisciplinarity; EIP-AGRI will be key for implementing the results of research

Anne Mottet – ***Livestock Production and Food Systems, Why we need to avoid simplification***

Anne Mottet from the FAO outlined why we need to avoid oversimplification when talking about the contribution of livestock production to food security and climate change.

- The FAO has generated three perspectives for future global food production: business as usual, towards sustainability, and stratified societies; we will need more of all foodstuffs, even with more consideration for sustainability
- Four priority areas proposed for livestock: food and nutrition security; health and animal welfare; livelihoods and economic growth; climate and natural resource use
- Hunger is on the rise, both prevalence and absolute numbers and malnutrition is an enduring problem; countries where people consume the lowest amounts of animal also exhibit the highest levels of hunger and malnutrition; we need to consider not only kilocalories but also nutrient density of foodstuffs; GHG emissions of foodstuffs must also be put in the context of their nutrient density
- Ruminants make a net-positive contribution to global protein availability, because they turn protein that we cannot eat (e.g. from grass) into a form that we can consume; livestock take up a lot of land for grazing, but a large proportion of that land is in any case not croppable; recent data (Chang…Herrero et al.) also suggest that improving the efficiency of animal production may have a more profound impact on emission intensity than reducing consumption
- Very strong effort at the moment in investing in sustainable livestock production

SESSION 2: FACCE-JPI's approach to transformation of Food Systems – joint programming and a focus on agricultural production and food security in the context of climate change

Gudrun Langthaler – What is FACCE-JPI?

Gudrun Langthaler, Chair of the Governing Board of FACCE-JPI gave a short presentation on FACCE-JPI and its approach of using science and innovation to deal with growing challenges, through co-creation, implementation of a range of different initiatives and communication and valorisation for impact. She finished by providing examples on different activities carried out within FACCE-JPI

Jean-Francois Soussana then emphasized that FACCE-JPI's work is most relevant to Action Track 3 of the UNFSS: Boost Nature-Positive Production, but that the initiative fits in well in the broader landscape of the other Action Tracks.

Frank O'Mara – FACCE ERA-GAS: the ERA-NET Cofund on Monitoring and Mitigation of Greenhouse Gases from Agri- and Silviculture

- Climate action in agriculture needs to be underpinned by accurate and robust monitoring, reporting and verification (hard in agriculture compared to transport and energy); supported by mitigation innovations; profitable and socially sustainable; supported by a policy and economic frameworks that promotes adoption
- ERA-GAS exemplifies one of the big benefits of an ERA-NET: the international dimension; e.g., a small country like Ireland could take part in six projects in the first co-funded call from 2016
- The impacts of FACCE ERA-GAS research can be viewed in several dimensions: at the animal level; in the field and barn; from cropping residues; at farm and national scales
- The ERA-GAS Consortium has also sought to consolidate policy and scientific advice; different projects organized sessions at European meetings and organized advice into briefs and factsheets; a focus on digital technologies
- Work in ERA-GAS has predominantly contributed to Action Track 3 (Boost Nature-Positive Production) of the UNFSS, but also Tracks 4 and 5 (Advance Equitable Livelihoods and Build Resilience to Vulnerabilities, Shocks and Stress).

Maurice Héral – FOSC: the ERA-NET Cofund on Food Systems and Climate

- FOSC launched in 2019, projects starting running in June 2021; distinguished by strong participation of African (seven countries) and Latin American (two countries) funders; related to the EU-Africa Partnership on Food and Nutrition Security and Sustainable Agriculture (FNSSA)
- Four core themes: climate change-related risks, innovative technological deployment, increased resilience and reduction of volatility, reduction of food losses under climate change; expected impact: support carbon-neutral agriculture and food chains, understanding the effects of climate change on global food value chains, develop solutions posed by environmental changes to the food system; the ambition is to address these goals across spatial scales and with the reference to the 2050 time horizon

Pete Smith – DEVIL: Delivering Food Security on Limited Land

- Project co-funded by FACCE-JPI and the Belmont Forum; allowed collaboration with partners from all over the world: China, India, Brazil, Australia and South Africa as well as in Europe
- Gathered high-resolution spatial activity data on croplands and livestock production under different management, forming the base data for modelling changes in agricultural production, trade and food security; modelling then used to assess future (2050) country-level food dietary demands and production capacity; future food security strategies were developed at country level considering potential food waste reduction; sustainable production intensification, diet changes and ultimately climate change; information was generated on the trade-offs between the alternative scenarios, detailing the benefits and consequences of pursuing food security at a global scale
- Key findings: projected population increases and dietary transitions cannot be sustained; for food security on limited land, we need a combination of sustainable intensification, dietary change towards sustainable healthy diets and waste reduction; central elements of the strategy will be similar everywhere with some regional differences

- 55 publications emanated from the project

Katharina Helming – The MACSUR Science-Policy Knowledge Forum for Strategic Design of Mitigation and Adaptation Measures

- Ten countries are coming together, from June 1, 2021, to build on the success of MACSUR1 and MACSUR2 Knowledge Hubs with the objectives of supporting policy with model-informed knowledge synthesis; elaborating a cross-scale roadmap towards carbon neutrality (net-zero) and adaptation towards sustainable development; understanding synergies and trade-offs including international impacts; pilot phase will last for 18 months
- One key element of the pilot is that National Policy Representatives, responsible for formulating policy questions at the national level, are part of the consortium
- Disciplines addressed are crop sciences; livestock sciences; economy; sustainability; transdisciplinary skills

SESSION 3: How can FACCE-JPI contribute to the goals of the UNFSS?

Frank Ewert – FACCE-JPI Strategic Research Agenda (SRA) 2020

- The challenges identified at the inception of FACCE-JPI and discussed in its first SRA are still there, and some are even more prominent; FACCE-JPI has moved towards a more Systems approach to tackling issues that considers trade-offs and synergies; the challenge is to move from scientific insights to implementation: living labs will be an important strategy in this respect
- Considerations for SRA 2020: build on previous success but also anticipate new developments. Specifically, the aim was to take a systems perspective, consider important related systems and relevant interactions, and consider shocks
- How to deliver impact? Diversify the toolbox; stakeholder involvement; accessibility of results; evaluation framework

Breakout group 1 – How can Core Theme 1 "An agricultural sector that contributes to climate neutrality" contribute to the five Action Tracks of the UNFSS?

Chaired by Tim McAllister (FACCE-JPI SAB) and Rebeca Fernandez (FACCE-JPI StAB)

- **Lessons learned from FACCE-JPI**: huge amounts of information from initiatives like FACCE ERA-GAS; benefits of cross-European collaboration are clear: synergy and diversity; a lot of mitigation options have been identified; the importance of retaining peatlands as carbon sinks
- **Priorities**: a Systems approach, also in terms of policy options (i.e. not only aspects and policy areas that are directly related to climate change); simple measurements that will allow users (farmers) to document and measure the impact of their own practices; living labs and strategies to upscale from living labs; diversity in agricultural systems: integration of livestock and cropping
- **Barriers**: the goal of carbon neutrality is a challenge, considering the diversity of different agricultural systems; there needs to be a change in mind-set regarding what people are prepared to pay for food that is sustainably produced and does not negatively impact biodiversity

- **Levers of change**: co-creation will be key; coherence in financing shared costs in terms of the productions system and carbon neutrality; making local success stories more visible

Breakout group 2 – How can Core Theme 2 "Sustainable and resilient agriculture" contribute to the five Action Tracks of the UNFSS?

Chaired by Frank Ewert (FACCE-JPI SAB) and Francesca Ricardi (FACCE-JPI StAB)

- **Lessons learned from FACCE-JPI:** the link between science and policy-makers remains weak and hampers research impact; standard project durations may not always be long enough in terms of addressing complex issues
- **Priorities:** the science-policy link needs to be strengthened, also with policy-makers outside the agricultural sector and projects could be longer (up to 5 years) and better linked to policy-makers and policy priorities; it will be important to determine how resilient and sustainable agroecology is in a larger geographical context; related to that, to what extent can effective practices in general be scaled up and down; more attention on trade-offs and synergies, not only between elements of the system but also between different geographical regions; digitalization is important (trade-offs and synergies also important here); alternative protein sources, i.e., insects
- **Barriers:** the complexity of the entire system is an issue, i.e. many people do not have a background in agroecology specifically; how ready is scientific community to work on integrated questions? Difficulties/tensions between systemic and specific approaches
- **Levers of change:** many of the problems addressed by the UNFSS Action Tracks are external to the EU, but through import and export on the global marketplace, we in Europe have a large impact on these problems; there is a convergence of priorities between EU and e.g. Africa on questions such as digitalisation and up- and down-scaling of agroecology.

Breakout group 3 – How can Core Theme 3 "Nutrition-sensitive agriculture" contribute to the five Action Tracks of the UNFSS?

Chaired by Gianluca Brunori (FACCE-JPI SAB) and Amrit Nanda (FACCE-JPI StAB)

- **Lessons learned from FACCE-JPI:** FACCE-JPI should take a circular approach: the needs should define the production; the term "nutrition-sensitive" marks a paradigm change from older approaches to production, where perhaps the focus was not on nutrition, but more on productivity (Most relevant to Action Track 1: Ensure access to safe and nutritious food for all); spatial differences must be recognized, important to go beyond the average
- **Priorities:** there needs to be a market for nutritious food in Europe (establish awareness), but supply may also distort prices leading to an effect on demand; needs to be awareness that diets are also changing; also important to determine how different categories of food are affected by different policies; important to look at the specificity of the European context, but also the links between Europe and other countries through, e.g., imports; huge amount of knowledge generated within FACCE-JPI: how do we turn it into impact, especially considering the urgency of climate goals (only 9 growing seasons); this may lead to priorities; a focus should really be on assessing and synthesizing knowledge that is already there (within FACCE) but also from other sources and link it with policy
- **Barriers:** Is nutritious food nature-positive? What are the trade-offs? Definition of nutrition/nutritious not clear (hundreds of elements define nutrition)

Breakout group 4 – How can Core Theme 4 "Synergies and trade-offs between food production, ecosystems and climate" contribute to the five Action Tracks of the UNFSS?

Chaired by Frank O'Mara (FACCE-JPI SAB)

- **Lessons learned from FACCE-JPI:** there are trade-offs and synergies between the various dimensions of food production, ecosystems and climate; trade-offs: organic farming will lead to lower yields; synergies: multi-species swards: boost biodiversity with equal (or even better) livestock production; the impact of the EU's Food System extends beyond the EU's borders, so the trade-offs and synergies might actually be happening in third countries; trade-offs will be more or less severe depending on the region
- **Priorities:** develop better integrated assessment tools to give more holistic assessment of the various different aspects of food production systems and their impact on ecosystem services and climate change; further develop the close integration of livestock and crop production systems to allow exploitation of synergies and avoidance of trade-offs; accelerate the application of the principles of co-creation, multi-stakeholder involvement and living labs; increase understanding among citizens and consumers regarding food production, animal welfare and trade-offs that can potentially influence prices
- **Barriers:** reward systems for farmers for dealing with trade-offs are lacking (e.g. for boosting biodiversity); the actors that need to change, i.e. consumers' willingness to pay more for food; how do we make consumption habits more sustainable?
- **Levers of change:** consumers, policy (pricing systems) and the food processing sector (willing to put a premium for locally produced food); consumers and society at large need to accept the need for trade-offs

Gianluca Brunori's final remarks

Priorities identified on the basis of the breakout room discussions: Agroecology, livestock, crops, nutrition through diversification, an emphasis on digitalization and mitigation, a need for a Systems approach; we need to look at how we achieve specific goals

What kind of science do we need in order to have more impact? Living labs, knowledge synthesis and evaluation. FACCE-JPI's role is not just to create a thematic agenda, but to see that the results of science are translated into practice.