

Report

Food Security and Nutrition in the context of the 2030 Agenda: Science and Knowledge for Action



International Colloquium
27 September 2016
University of Hohenheim, Stuttgart

Report on the International Colloquium of the High-Level Panel of Experts (HLPE) and the University of Hohenheim on 27 September 2016 in Hohenheim¹

Food security and nutrition in the context of the 2030 Agenda: science and knowledge for action

Stefanie Lemke and Ann Waters-Bayer²

23 November 2016

The international colloquium was organised as a contribution to the HLPE process of identifying critical and emerging issues for food security and nutrition, with the broader perspective to contribute to advancing the 2030 Agenda for Sustainable Development.

Panelists and participants from academia, the public sector/policy and civil society identified key issues and research needs, with a focus on approaches and new partnerships needed to adequately address the complexity of these emerging issues.

The objective of this report is to provide an overview of the **five key issues** that emerged during the discussions in the panel sessions, as identified by the authors of this report³.

1. Food security and nutrition in conflict areas and role of women

Food security and nutrition in conflict areas is one of the most pressing issues of our time, and is related to underlying structural conditions of inequality and power, as well as to environmental issues. Rami Zurayk from the American University of Beirut, and HLPE Steering Committee Member, stressed that 10% of the world's farming area lies in conflict regions and 500 million people are affected by conflicts. He underlined that food production and trade continue to take place in war-torn countries, but we do not know how inputs reach farmers, how crops are sold, and what roles and position women have when men are absent because of war and migration. This brings gender to the fore without abstraction, but as a survival issue. He stressed that women need to be empowered with knowledge and access to inputs in peaceful times to build resilience for times of conflict and crisis.

2. Capturing complexity and integrating diverse knowledge systems

Discussions at this Colloquium focused on the need to integrate diverse actors, knowledge systems and data, including local and indigenous knowledge, and to bridge diverse research approaches for more holistic investigations of complex challenges. Farmers, indigenous peoples and other local actors are not yet included sufficiently in framing research and co-producing knowledge, as was stressed by Esther Penunia, Secretary General of the Asian Farmers' Association, and Carol Kalafatic, Vice-Chairperson of the HLPE Steering Committee. It was agreed that there is a need to foster genuine participatory and transdisciplinary approaches, as well as to challenge and overcome unequal power relations between conventional sciences and alternative knowledge systems, for a more balanced dialogue. This can be achieved only by

¹ This report is an extended version of the rapporteurs' report presented at the Colloquium on 27 September 2016. We thank Alicia Kolmans, Carolin Callenius and Nathanaël Pingault for constructive feedback and comments.

² Stefanie Lemke, Centre for Agroecology, Water and Resilience, Coventry University, UK; Ann Waters-Bayer, Prolinnova International Support Team, Royal Tropical Institute (KIT), Netherlands

³ The presentations at the Colloquium can be found at <https://gfe.uni-hohenheim.de/international-colloquium>

establishing trustful relationships among research partners and respecting each other's worldviews. This requires time and therefore also implies long-term funding of research and development initiatives, including alternative funding streams – as was underlined by various panelists and the audience – not least because nutritional outcomes can be measured only over a longer period of time. Hans-Jörg Lutzeyer from European Commission's Directorate General for Research and Innovation emphasised the importance of integrating different knowledge systems if we want to achieve innovation and development, based on a multi-actor concept.

Sabine Zikeli, Coordinator for Organic Farming and Consumer Protection at the University of Hohenheim, gave examples of successful innovation in organic farming driven by farmers, as a result of inter- and transdisciplinary research conducted in close collaboration and partnership between researchers and farmers, farmer associations, extension services and civil-society actors. Thorsten Kiefer, Director of the Future Earth Global Hub in Paris, stressed that co-design and co-production of knowledge with local actors are essential for solution-driven research.

Patricia Schmitz-Möller from the German Research Foundation (DFG) highlighted that basic research, adhering to scientific quality criteria, is equally important to find solutions for today's pressing issues such as nutrition and climate change, and that there are opportunities for combining basic and transdisciplinary research. She referred to the presentation made by Thomas Berger, Chair of Land-Use Economics at the University of Hohenheim, who illustrated how farmers in Chile contributed to research within the CGIAR Program on Water and Food. Patricia Schmitz-Möller called for enhancing research capacity among young scientists who increasingly seek interdisciplinary solutions. She suggested that diverse funding structures be established to meet different needs of research and that there be closer collaboration between different funders.

Medha Devare from the CGIAR global research partnership demonstrated how they address system complexity in their programmes. A highly relevant question in this context is data handling. Open access to data, data harmonisation and analytics of data are key for democratisation and transparency of research, and smart solutions are required to convey information to farmers to support their decision-making.

3. Ecologically sound, adaptive and resilient agricultural systems

Several panelists – including Emile Frison, member of the International Panel of Experts on Sustainable Food Systems (IPES-Food), and Bärbel Höhn, member of the German Bundestag (Parliament) and Chair of the Committee on the Environment, Nature Conservation and Nuclear Safety – stressed that we have no choice: we must transform the current agricultural model toward ecologically sound, adaptive and resilient practices, regardless of scale (large or small). Which mode of agricultural production is most appropriate will always be context-specific. Sustainable intensification of agriculture was identified by the audience as a key emerging issue for food security and nutrition. At the same time, economic viability of agricultural producers is crucial. This can, for example, be achieved through better access to markets, resources and services, which – especially in contexts with poor infrastructure and services – can be more important than increasing production. An ongoing critical issue that was highlighted by Friedrich Wacker, Head of the Directorate for International Cooperation and World Food Affairs in the German Federal Ministry of Food and Agriculture (BMEL), is the neglect of the farming sector and rural development in most countries. A key question is how to better integrate small-scale farmers into the overall economy. Linked to this, an issue that still receives insufficient attention is that many people in the younger generation do not see a future in farming.

Bärbel Höhn referred to the Bertelsmann study *Sustainable Development Goals: are the rich countries ready?* (2016)⁴, which compared OECD countries with regard to achieving the Sustainable Development Goals (SDGs). This revealed that Germany still has high CO₂ emissions/person, high nitrate levels in the groundwater and high rates of biodiversity loss, for example, in terms of insects (bees) and birds. All of these problems are linked to agricultural production. Bärbel Höhn called on developed countries to increase their efforts, and emphasised the need for long-term thinking, supporting family farms and enabling closer links between producers and consumers.

In light of high rates of undernutrition and dependency on food imports (currently 14% and projected at 25% by 2025), Hamady Diop from the New Partnership for Africa's Development (NEPAD) asked what the best model is for African countries, whether the Green Revolution can be upscaled, and what role large and small farms in Africa will play in the future. He called for clearer advice from research. A remark from the audience relating to these questions was that we should not aim for another Green Revolution, with the known negative consequences, but for a "colourful revolution", which places more emphasis on diversity and quality, instead of merely quantity in terms of yields.

4. Addressing power imbalances to transform food systems

This Colloquium discussed two contrasting paradigms: "modern" / industrial agriculture vs agroecology / ecological diversified and organic agriculture. Regina Birner, Chair of Social and Institutional Change in Agricultural Development at the University of Hohenheim, remarked that there seems to be broad agreement on the need to make agriculture more sustainable, resilient and climate-smart, as is also reflected in the SDGs. However, views on how to best achieve this overall goal differ, also on how to bridge the gap between the two contrasting paradigms. More knowledge about this is required. As was stated by several panelists, attention to these two paradigms is not even and balanced, but relates to a concentration of power in the agribusiness sector, favouring the industrial agriculture paradigm.

While there is ample evidence of the benefits of more diversified farming systems as being more environmentally sound and having the potential to improve social equity, support local markets and suit cultural habits and preferences, there is not enough support for transformation toward more diversified farming systems. To reveal the power structures behind the current model and the barriers that hamper change, a political economy lens is required, as was stressed by Emile Frison, referring to the IPES Food report *From uniformity to diversity: a paradigm shift from industrial agriculture to diversified agroecological systems* (2016)⁵. Metrics are needed that encompass the total output of a system, from production to waste management, including environmental costs and ecological services, instead of measuring success only in terms of production per hectare, cow or worker, and gross domestic product (GDP).

A comment from the audience was that the Right to Food – a cornerstone of the Committee on World Food Security (CFS) and integrated into BMEL's approach – should be strengthened. This would ensure more active participation of local actors in identifying knowledge gaps, developing innovations and finding adequate solutions. The key role of women in producing food, conserving diversity and promoting good nutrition was highlighted by several panellists.

⁴ <https://www.bertelsmann-stiftung.de/en/publications/publication/did/sustainable-development-goals-are-the-rich-countries-ready/>

⁵ http://www.ipes-food.org/images/Reports/UniformityToDiversity_FullReport.pdf

5. Consumption patterns and sustainable diets

Several panelists – among them, John Ingram, Food Systems Programme Leader at the Environmental Change Institute, University of Oxford, and members of the audience – stressed that overnutrition and obesity are progressively becoming as big problems as undernutrition and are related, among other factors, to an emerging middle class, increasing urbanisation and changing lifestyles and diets, including high consumption of animal-source products. Malnutrition in all its forms has to be addressed. Adding up the number of people who obtain insufficient calories, those who obtain sufficient calories but insufficient nutrients, and those who consume an excess of calories, it becomes apparent that the food system is not providing adequately for half of the world's population. This leads to massive health, environmental and social-equity problems. As Tara Garnett from the Environmental Change Institute at the University of Oxford exemplified, one third of global annual greenhouse gas emissions (GHGs) come from the food system. Even if all other sectors reduced emissions to zero in order to keep global warming below 2°C, current food-related GHGs could represent 100% of the emissions budget. In view of this, a metamorphosis of the food system will be needed to achieve the SDGs. Promoting sustainable diets is a key component of this necessary change. Because evidence is lacking as to what policies and instruments work best to shift consumption patterns, Tara Garnett suggested policy experimentation as an approach, ranging from education programmes and labeling through taxes and subsidies to macroeconomic policies and agreements.

There was broad consensus among panelists and the audience that we should look not only for yield and quantity, but also for quality. This refers, among other things, to nutritional quality and micronutrient content of food. Hans Konrad Biesalski, Chair of Biological Chemistry and Nutritional Science at the University of Hohenheim, emphasised the importance of essential micronutrients during the 1000-day period from conception to two years of age, and remarked that isolated micronutrient fortification of staple food, as the example of Golden Rice has shown, is not a sustainable solution.

Some of these problems can be related to the fact that there is a disconnect between agriculture (the production side) and nutrition (the consumption side). Recent frameworks – among them, nutrition-sensitive agriculture, urban agriculture, multifunctional agriculture and sustainable diets – are aimed at bridging this gap. However, much stronger efforts are needed to collaborate across sectors and disciplines.

As was critically noted by members of the audience, the importance of the cultural aspect of food consumption, as well as nutrition education and how to get messages across, are still not receiving sufficient attention in science and policy.

6. Final remarks

The Colloquium has provided the opportunity for diverse actors to engage in the ongoing consultation process facilitated by the CFS-HLPE to determine and discuss critical and emerging issues for food security and nutrition.

Such events enable broader participation and bridge the policy–academia–civil society interface. Maryam Rahmanian, former Vice Chair of the first and second Steering Committee of the HLPE, highlighted that the HLPE reports are a starting point for negotiations in political processes, with the diverse audience within the CFS enabling the integration of different disciplines and types of knowledge, engaging in an intensive dialogue that takes time.

As Friedrich Wacker from BMEL remarked to the audience, the CFS is providing a useful platform that is accessible to all relevant actors, enabling learning partnerships.

Sheryl Hendriks from the University of Pretoria, South Africa, and formerly member of the first and second Steering Committee of the HLPE, pointed out that, although the HLPE reports provide a great opportunity to inform governments, the crucial question is how these reports and voluntary guidelines are translated into policies at the national and sub-national levels. This translation requires governance and strong institutional structures, especially strong leadership and communication. It further requires guidance on binding guidelines, a set of clear indicators, and good monitoring and evaluation systems.

Patrick Caron, Chairperson of the HLPE Steering Committee, emphasised that the outcomes of this Colloquium will serve to identify further critical and emerging issues for food security and nutrition. Thus, this Colloquium is directly informing the ongoing HLPE consultation process.