



Report of the FUTURE FOOD Conference

Organised by IED on Thursday 19 September 2019, 17.30 – 20.00
At Podere Lesignano (San Marino)

The FAO predicts a doubling in global meat consumption by 2050. 70 per cent of agricultural land worldwide is currently used for livestock, more than half of it for growing livestock feed. It is now clear that this overconsumption of meat is fueling global warming.

Avoiding meat and dairy products is one of the biggest ways to reduce your environmental impact, according to recent scientific studies. Switching to a plant-based diet can help fight climate change, according to a major report by the UN's Intergovernmental Panel on Climate Change (IPCC). Cutting meat and dairy products from our diet could even reduce an individual's carbon footprint from food by two-thirds, according to a recent Oxford study, published in the journal Science.

In order to contribute the Climate change discussion on European level and to come up with practical solutions, the IED together with Repubblica Futura, has organized a Conference on 19 September in San Marino dedicated to "Future Food- sustainable food production".

Future proteins: a shared strategy on production and consumption of protein

By 2050, humans will consume more animal protein than ever, driven by an increasing population and improved standards of living. This consumption level will deplete our natural resources. Hence, a transition towards eating protein from more diverse, resource-efficient sources is needed. **Dr. SC Stacy Pyett**, Program Manager Proteins for Life (Wageningen University, The Netherlands), shared with the audience her vision a future in which protein production will be part of a sustainable, affordable, trustworthy and high-quality food system. Purposeful combinations of plants, animals, and microorganisms will be tailored to local conditions. To achieve this even in areas of scarce resources, breakthrough innovation, societal shifts and supportive regulatory changes are required. An integrated European platform supporting changes from farm to table will, according to her, ensure that EU member states continue to lead the ongoing protein transition.

She listed 4 main reasons why Europe and the world should make a protein transition:



Environmental impact reduction : The total food production chain contributes more than 25% of global Green House Gasses (GHGs), is responsible for 33% of global terrestrial acidification, the majority of global eutrophication, and covers nearly 40% of the world's ice-and desert-free land

Zero hunger for a growing population : Protein malnutrition co-exists with protein overconsumption, and population growth is likely to exacerbate the imbalances. More equitable food systems are required to prevent increasing hunger and malnutrition.

Resilient production systems: More than 70% of the world's undernourished people live in areas of highest susceptibility to climate change. As climate change accelerates, food scarcity will put more pressure on already-fragile areas and might contribute to instability and migration. Resilient protein systems are urgently needed in these fragile areas.

Public health: Western diets shifted from 40% of protein from animal sources in the 1960's to more than 60% today. A return to a more plant-based diet in line with global dietary guidelines could prevent 5.1 million deaths by 2050 by reducing chronic-disease mortality.

She then presented 4 priority actions:

Plant breeding for nutrition and total use

The focus of plant breeding in the last century has been mostly on increasing yield of edible parts of the crop and disease resistance. Limited efforts have been made to develop crops adapted to abiotic constraints, such as drought, heat and salinity. There is a need for a major European initiative to reorient plant breeding programs in alignment with the demands of downstream food processing.

Animal production in a circular food system.

While her research clearly indicates substantial benefits of animals in a circular food system, further modelling is required to envision the optimal scales of circularity, and to detail recommended land use changes per region. Circular-by-design systems should be prioritized in climate-fragile, regions with currently-underdeveloped supply chains.

Mild processing.

There are many reasons to explore alternative routes to food production. A high level of food processing clearly contributes to a high environmental impact by requiring energy and water inputs. In practice, application of less refined ingredients requires new technology platforms as well as knowledge development.

Shifting consumption.

It is essential to establish an understanding of the complex drivers resulting in current consumption patterns. The nature of the interlinkage between meat consumption and

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social status should be understood. A European ecosystem approach to develop, pilot, and share best practices in consumption shifts is recommended.

Changing consumer behavior: How to create a more sustainable food culture?

Climate change and securing food supply for an increasing world population put high demands on all relevant parties along the food supply chain including consumers, distribution channels, food industry and farmers. Consumers' dietary change reducing intake of foods from animal origin is recognised as one strategy to reduce impact on climate change and can have additional health benefits. Although, in absolute terms the impact on GHG of such dietary change is limited (approx. 10% of total GHG reductions needed for the 1.5°C increase scenario), it is a necessary step to reaching UN climate targets for 2050.

Current research and innovation efforts within the EU are made to prepare for the next generation of foods. These rely on more alternative protein sources and other nutrients with lower climate and environmental impacts. **Wender L.P. Bredie**, Professor of Sensory Science and Head of Food Design and Consumer Behaviour and of Future Consumer Lab at the Copenhagen University explained that consumer acceptance of these more sustainable foods will be essential, but should also accommodate individual dietary needs (e.g. elderly), cultural differences, traditions as well as social values and norms.

Changing consumer dietary behaviour is a difficult task as food habits are formed slowly and difficult to change. It will require sophisticated behavioural change strategies beyond traditional information-based interventions. Such strategies could include 1) minimizing disruption to consumers, e.g. through smarter food choice architectures; 2) selling a compelling benefit, e.g. high sensory quality; 3) maximizing awareness, e.g. through iconic examples and public influencers; and 4) evolving social values and norms widening the boundaries of what we currently consider as food, e.g. in schools and at public events. From the producers' side, the development of low impact foods of the future will need a "senses-driven" consumer-guided innovation in order to create enough market pull. In such innovation insight in longer-term consumer acceptance and feedback is needed in order to create a durable more sustainable food culture.



Recommendations to EU and national Policy makers

1-Provide a regulatory fast-track for new protein sources and new production circles. A possible quick-win can be achieved by creating room for permitted exceptions to regulation for companies and institutions to pilot test innovative solutions.

2-Create level-playing field between sources : eliminate subsidies which contribute to the low price of animal proteins.

3-Empower regional governments to experiment with outreach and interventions to encourage sustainable consumption.

4-Create a shared EU-level food policy innovation centre to bring together stakeholders, to test innovative policy directions, and to align local, regional, national, and European initiatives.

5-Minimizing disruption to consumers, e.g. through smarter food choice architectures

6- Selling a compelling benefit, e.g. high sensory quality;

7- Maximizing awareness, e.g. through iconic examples and public influencers;

8- evolving social values and norms widening the boundaries of what we currently consider as food, e.g. in schools and at public events.