

Benedikt Haerlin

The making of a paradigm shift

“Business as usual is not an option” has become a widely-used maxim since appearing in the press release on the final report of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) in April 2008. One decade later, the majority of the academics, policy makers and institutions involved seem to agree on the fundamental need for a transformation of food systems at both local and global levels. In addition, the spirit of change has accelerated over this period, emerging from a groundswell of innovative grassroots initiatives, old and new, from field to fork.

More than a decade ago, the IAASTD identified a number of major shifts and policy options that would contribute to the reduction of hunger and poverty, the improvement of rural livelihoods and human health, and facilitating equitable, socially, environmentally and economically sustainable development. These included:

- Favourable and just conditions for small farmers, especially women, in terms of their access to land, resources, seed, knowledge and markets;
- Support for and investment in agroecological practices, innovation and research;
- Complementing the concept of food security with that of food sovereignty as the right of peoples and sovereign states to democratically determine their own agricultural and food policies;
- Fair and equitable terms of trade, designed to overcome the 'global treadmill' and foster local and regional value chains, offering greater protection from financial speculation, international corporate domination and corruption;
- The revalorization of indigenous, traditional and local knowledge and a participatory approach to knowledge production and sharing that is solution oriented instead of technology driven.

The complexity of food system and ecosystem approaches is being addressed today by an emerging discipline, or rather trans-discipline, of agricultural, ecological, economic and health knowledge. Pathways to holistic and multifactorial approaches have been increasingly conceptualized and elaborated. As a result, a new food system narrative has been firmly established over the past decade. This new narrative is distinctly different from the post-war industrial and chemical narrative whose fame and glory culminated in the Green Revolution and which still dominates mainstream farming. It also goes well beyond concepts of sustainable intensification merely trying to improve the resource efficiency of productivism.

Narratives and fashions come and go. However, what has developed over the past decade is more than this. A real paradigm shift for agriculture, nutrition and food systems has emerged. Such a paradigm shift entails the change of prevailing questions and priorities to be answered within a conceptual framework accepted by a majority of the scientific and expert community and those following their knowledge system. Thomas S. Kuhn defined paradigms in 1962 as “universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners” . Paradigms are questions, methods, patterns and models, not answers. They provide room for lively discussion and competing concepts as well as different approaches, including a pluriversity of knowledge systems well beyond classical western natural sciences. However, they do exclude answers to questions not asked. A good example of such a paradigm shift is the role that Climate Change considerations have in global priority setting.

Amongst the key elements of the new paradigm for food and farming systems is the recognition of planetary boundaries and natural scarcities, including rapid climate change and biodiversity loss as well as the scarcity of time left for addressing these issues. The drama of the predictions of the IPCC (see page 150) as well as the IP-BES (see page 104) becoming true and visible in even less time than expected is defining the global modus operandi under which we have to address the questions of the new paradigm.

Integrating previously segregated sectors of production, processing, trade, consumption, environmental assessment and health, as well as knowledge systems into the concept of food systems substantially extends the scope and complexity of the approaches that are needed. Together with the recognition of social inclusion and human rights as critical systemic factors in any sustainability equation this systems approach has gained weight enormously over the past decade. The new paradigm of agri-food systems also integrates the implementation and cost of public and personal health as part of the economy of food and agricultural production. Lifestyle, mass communication and its manipulation, and socio-demographic developments have all been acknowledged as drivers of our food systems. As to whether the archaic and modern myth of “more food is needed – production must increase!” has already been overcome by a differentiated “only produce or take what is needed” as a part of the emerging paradigm shift is still too close to call.

The level of complexity that emerges from this new paradigm is higher and more challenging than its green revolution predecessor. This leads some scholars to believe that only computed modelling, big data and artificial intelligence will be able to solve the riddle. De-humanisation by means of digitization has become a conceptual approach to managing this complexity. Resorting to tools and technologies instead of values to answer what are basically political and social questions is not new. However, this ideological mistake is at the root of

many of the disasters that must now be urgently managed and healed. Re-humanising, reconnecting, rebuilding and restoring the resilience of our food systems is a distinctively different response to the same set of undeniable challenges.

The past decade saw the formation of agroecology as a uniting conceptual framework for addressing the new paradigmatic questions. At the same time, evidence has emerged of the importance of myriads of diverse local forms of implementation; traditional and new. Agroecology both as a social and cultural concept and as a set of agricultural and food system practices is certainly one of the most holistic and convincing approaches to the challenges of the new paradigm. While diversity is the mantra of agroecology at every level from local practices to global understanding, the beauty of the approach is that it provides plain and simple answers. These are based on human values and compassion to many uncomputably complex questions. The IAASTD has contributed substantially to the adoption of agroecology over the past decade.

The emerging food and agriculture paradigm shift contrasts with the insufficient and sometimes counterproductive political and economic approaches of governments and global corporations and their national and international value chains. This is not an entirely new illustration of practise not following knowledge. Threats to the resilience of ecosystems and sustainable use of natural resources and critical material cycles have increased over the past decade. All planetary boundaries, except the ozone layer, are being stressed harder today than ten years ago. Loss of biodiversity, mounting greenhouse gas emissions, degradation of soil fertility, deforestation, and detrimental nutrient and chemical emissions continue to rise at unacceptable levels. In many regions of the world 'mainstream' chemical agriculture continues on a pathway of self-destruction. Despite progress on the part of some countries, chronic undernourishment and hidden hunger, as well as obesity and other food related diseases have actually increased over the past decade. The destructive impact of industrial food systems and agricultural practices on our ecosystems and the social and cultural wellbeing of communities and nations has probably never been higher than today.

When looking back to the last decade we must acknowledge that, however intellectually and technologically productive and exciting it has been, it was by and large a lost decade for the practical resilience and ecological adaptation as suggested by the IAASTD report. While this is the statistically quantifiable evidence, the qualitative balance may not look as grim. This decade has seen bottom-up movements across the globe, not only demanding but realizing radical change, inspiring new approaches and practices in fields, kitchens and markets. A groundswell of highly innovative, yet conserving and healing agricultural and community practices may prove to have laid the ground for a "revolution of the niches" in industrialized as well as less industrialized societies.

Many scientists and other experts believe that the present decade will be the last chance to keep global warming and global biodiversity loss at an acceptable level for the survival of humankind. Likewise, bio-culturalism is threatened with irreversible collapse. The food and agricultural system has become the single most important factor that can deliver fast and sustained results in relation to these challenges. It is the one sector that directly affects, and can directly be influenced by, all those who eat and who produce food, i.e. all 7.7 billion humans on this planet.

Most societies and individuals now know exactly what needs to be changed, what really works and how it works. The financial and technical means to accomplish these changes are at hand. All that is needed is the political and economic will to do the right things at the right time. And there is clearly no time to lose.

Hopefully this collection of essays and topical papers will contribute to the debate, convincing and motivating colleagues, decision makers and all those involved in the food and agricultural sector to deliver the changes we all need to see. May it serve as a useful resource for those engaged in converting this paradigm shift into a real-life transformation of our food systems.

Endnotes

1 IAASTD, Global Summary for decision makers, p. 3

2 Kuhn, Thomas S., 1962, The structure of scientific revolutions, 2nd edition 1970, p. 8



Benedikt Haerlin heads the Berlin office of the Foundation on Future Farming (Zukunftsstiftung Landwirtschaft). He co-ordinates the European initiative "Save our Seeds", runs a "global field" of 2000 m² and co-chairs the thinktank ARC2020 on European agricultural policies. He represented northern NGOs in the board of the IAASTD. Before, he was an author and journalist, a Member of the European Parliament and worked for Greenpeace International.