

iPES Food: The new science of sustainable food systems (May 2015), par Pierre-Guillaume Brun

There is an international consensus that present food systems are not sustainable and must be reformed. To achieve this, we first need a new analytical framework for sustainable food systems, to identify leverage points, synergies, and lock-ins and propose adapted solutions to improve the resilience and sustainability of food systems. The components of food systems (social, political and economic) have co-evolved and strengthen each other. These webs of self-reinforcing power may constitute a roadblock to reform, from the national to the global level. Lots of actual solutions only focus on one part of the food systems (generally the effect of productivity on the environmental crisis), while we should on the opposite consider a holistic view of the food systems, with all its feedback loops, dual-sided interactions, regulatory networks and power imbalance. Sustainability must be the benchmark for future food systems reforms. This is summed up in the definition of sustainable diets: “diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable, nutritionally adequate, safe and healthy, while optimizing natural and human resources”. To achieve such goals, it is clear that a transdisciplinary science is required, co-produced with social actors. The flow of knowledge must go between science, policy and extremely important (but too often put aside) practice. This must be a collaborative effort, and the knowledge must be itself resilient (adapted to different contexts, and evolving circumstances). It must be a science that is nourished from real-life practice, enriched with scientific experimentation and transposed into policy-relevant forms.

For instance, this is what the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) tried in 2008, gathering politic, scientific and social actors to avoid one side from appropriating the knowledge for itself and where different rationales are recognized, to examine the impacts of present knowledge on an equitable, socially, environmentally and economically sustainable development. But this process has also encountered obstacles, du to the diversity of actors. It is particularly difficult to aggregate and mediate the voices of social actors (which is often done by NGO according to preordained priorities). Also, it is harder to reach the voices of the developing countries, because of a fundamental asymmetry in research capacities compared to the high-income countries. At last, the IAASTD view could not be replicated in later assessments.

Also there is an actual tendency to treat the symptoms instead of acting on high-leverage points. For instance we aim at a sustainable intensification to combine the environmental concerns and the necessity to grow more food, thus perpetuating a productivist ideology and prioritising technological over social innovations. While the interconnections between food security (which englobes social dimensions such as affordability) and environmental challenges are not addressed together, we cannot fully solve these problems. The initiatives must emerge from the most holistic and participatory processes to date, notably informed by the immense knowledge of practitioners. All actors must speak the same language (also those this reform seeks to be useful). Sustainability must reinvent itself, and the High Level Panel of Experts (HLPE) of the Committee on World Food Security (CFS) witnesses this transformation.

The transformative potential of the right to food (Olivier de Schutter, January 2014)

“The right to food is the right of every individual, alone or in community with others, to have physical and economic access at all times to sufficient, adequate and culturally acceptable food that is produced and consumed sustainably, preserving access to food for future generations”. The right to food is tightly linked with other human right, such as the right to work, and the right to social security.

Over the last 50 years, the Green Revolution booster the agricultural production, yet the number of starving people hardly reduced (from 1 billion in 1990-1992 to 842 millions in 2011-2013, considering low threshold of energy based on calculation for a sedentary lifestyle). Moreover, this does not account for the potential poor nutritional outcome with 2 billion people lacking vitamins and minerals du to inadequate diets, both in low and high-income countries. Moreover, the Green Revolution was accompanied by environmental impacts (increased irrigation nitrogen-based fertilizers and pesticides, high-yielding plant varieties) leading to the loos of agrobiodiversity, soil erosion and greenhouse gas emissions (the whole food systems are responsible for 30% of the emissions). The unsustainability of the actual food systems are responsible for a loss of productivity of 2% each decade in the developing countries, and a decline in fish and meat production.

Moreover, the actual food systems lead to multiscale inequities. On the local scale, the support of big competitive producers and the low prices on the food market provoke the specializations of regions with big monocultures and the struggle of small-scale farming to survive. On the global scale, the feeding of animals drains 30% of the cereal production and compete with the needs of the poorest who are unable to purchase anything but cereals. Also, the developing countries are dependant on food import, while exporting a narrow range of products to repay their debts. This does not favour the development of the local and sustainable agriculture, and makes these countries very vulnerable to market prices (social and political instability). We also observe a nutrition transition in the developing world, with a shift to foods richer in salt, sugar, and saturated fats, which in less nutritious, and less healthy. In general, the expansion of trades “has resulted in the luxury tastes of the riches parts of the world being allowed to compete against the satisfaction of the basic needs of the poor”. There is a link between the obstacles in low-income countries and the need for reforms in middle/high-income countries.

On the opposite, local food systems are expected to deliver:

- sustainable production, via for instance agroecology techniques that reduce the use of external inputs and maximize resource efficiency, leading to income and diet improvements
- sustainable consumption, via for instance the shift from ruminants to poultry, the decrease of demand for meat, the constraint demand for liquid biofuels in high-income countries, and improve the efficiency of food systems (1/3 of the produced food is lost or wasted)
- poverty reduction, via the investments in local production (support to smallholders, reducing the power of buyers and more generally imbalance power on the food chain, access to productive resources like seeds and lands), creating a diversification of the economy and enlarging the consumer market.

Initiatives have been taken in Brazil in this direction, where the government encourages the coexistence between all scales of exploitations (with different functions). With the Zero hunger strategy, family farmers are also expected to feed the cities.

To change the actual state of food systems, the local food systems must be rebuilt (by decentralizing food systems, but also by creating links between the cities and the rural hinterland to improve the resilience of the ever-growing cities). National strategies must be deployed (diversification of economy and establishment of standing social protection schemes), and en enabling international environment must be shaped (coordination between actions launched at different levels, and risk managing in the international trade such as food price volatility).

By 2050, we will need a 70% increase in global agriculture in comparison to the 2005-2007 levels. Yet there is not much available cropland left to fulfil this need once ecological and social impacts are taken in account. The future recommendations must be based on a consensus across various

groups of stakeholders, as the Committee on World Food Security (CFS) has tried to do, starting a process of collective learning because of the interdependence of efforts. The solutions must also respect the food rights of people and the rights of farmers. In 2013, an open-ended intergovernmental working group, mandated by the Human right council and its resolution 21/19, negotiated a United Nations declaration on the rights of peasants and other people working in rural areas.