

Agricultures, paysans et la productivité des ressources biologiques à échéance 2020-25 (On agriculture, farmers and the productivity of biological resources by 2020-25)

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A major ethical, economic, and public health challenge of our time is that large numbers of people over the world continue to live in intransigent poverty and hunger in an increasingly wealthy global economy. This situation is particularly shocking as it concerns many rural societies in the first place: 80% of the malnourished make their living from agriculture. In other words, a majority of those suffering from hunger are making their living from a subsistence agriculture.

Why and how have we come to this point needs to be understood by everybody, so that viable solutions be put forward urgently. There is so much room for change in the right direction that we need to think in terms of *“from agriculture as a problem to agriculture as a solution”* and turn agriculture into the driving force of a new civilization. One main reason is that agriculture is far from being an ordinary economic activity, just to mention the fact that it is the first user of planetary space, water, ecosystems and biological diversity.

How much time do we have for that change to happen? Most of the simulations and projections, with exceptions such as CO₂ reduction rates, take 2050 as the reference time scale. As a matter of fact, the stringent deadlines are on 2020-2025, not 2050. Arguments, including demographic growth with 8 billion in sight for 2020, surging demand for food, feed and bio-fuels, the need to generalize sustainable production systems while stopping soil destruction and deforestation and saving water resources, are going to be discussed.

To match the growing demand and despite these various constraints, yields need to be increased by a factor 2(3) in the next couple of decades. In reality, the overall biological productivity, plant productivity in particular, needs to be increased to those levels.

Can technology and biotechnology address this issue? I will show how much gene technology and genomic assisted-breeding could do by 2020-2025.

Can ecology address this issue? I will describe how working on (agro)ecosystem services could stimulate an ecologically productive, science-driven agriculture.

Can political decision and management skills address this issue ? I will defend the idea that a socially sustainable agriculture is an absolute priority and urgency. This means that we have to work very hard to define world-wide mechanisms providing family farm households, the backbone of local agricultures and major actors in a sustainable society, with effective rights in accessing land, water, genetic resources, credit / prices, knowledge etc.

It is clear from the above that it is only by the proper and timely combination of such strategies with powerful synergistic effects that the 2020-2025 deadline could meet our most legitimate expectations.