

## Feed the world – but how?

### On Syngenta's withdrawal from the 'Global Agriculture Report' and on successful agroecological strategies

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Agriculture is facing tremendous global challenges. For one thing, as intense floods and severe droughts and storms expected to occur more frequently, farmers will have to cope with far greater climate extremes, especially in the southern hemisphere. Also, agricultural output will need to increase massively to feed an increasing population. Finally, the huge environmental damage caused by current agricultural systems will need to be remedied.

Everyone agrees that we need new strategies to tackle these Herculean challenges. However, the difference between various approaches could not be greater. Syngenta and the agribusiness lobby believe that the solution lies in continuing to increase output, if perhaps rather more cleanly and more sustainably so. However, ever larger numbers of experts have come to the conclusion that a radical strategic shift is required. It is becoming unaffordable to pursue an obsolete concept of industrial agriculture predominantly based on monoculture, which consumes massive amounts of energy, agROTOXINS and synthetic fertilisers.

### Syngenta withdraws from the 'Global Agriculture Report' (IAASTD)

A key role in the attitude shift described above has been played by the 'Global Agriculture Report', officially known as the *International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD)*. Initiated in 2002 by the United Nations and the World Bank, the IAASTD has been the most comprehensive scientific assessment of the future global food situation to date (IAASTD 2008): on 'behalf of the United Nations and the World Bank, in a four-year-process, over 400 scientists and experts from every continent and every field of research summarised the state of global agriculture, its history and its future'. Its key issues were: What are the most efficient strategies to fight hunger and poverty? How

can funding generate the greatest possible benefit for the poor? What kind of research is required?

The IAASTD drew on contributors 'from all continents and a broad spectrum of disciplines', ranging from Greenpeace to Syngenta. However, shortly before its publication, Syngenta withdrew from the process. Australia, Canada and the U.S. also expressed their reservations. According to insiders, their 'main motive was the critical assessment of genetic engineering, and industrial agriculture as compared to small-scale farming and the role of global trade with agricultural commodities' (Global Agriculture).

### **Business as usual is not an option**

Having been accepted by 58 governments, including that of Switzerland, the IAASTD (2,000+ pages) was presented in Johannesburg, South Africa, in 2008. Its clear and simple message was that 'business as usual is not an option'. Rather, a 'thorough and radical overhaul of present international and national agricultural policies' would be required 'to meet the enormous challenges of the 21<sup>st</sup> century' (Global Agriculture). The assessment called for a shift towards a multifunctional agriculture, one that would focus on species diversity, and on the conservation and renewal of natural resources.

According to a summary of the IAASTD published in 2013 by the Foundation on Future Farming (*Zukunftsstiftung Landwirtschaft*, Berlin, Germany), this ambitious goal can only be achieved in co-operation with small-scale farmers: 'The IAASTD does not offer so-called "silver bullet" solutions; in fact it warns us against believing such solutions exist, be they of technological, economic or political nature. Instead, it provides a comprehensive and interdisciplinary analysis of the state of agriculture and a wide range of promising approaches' (Global Agriculture).<sup>1</sup>

The summary of the assessment notes that the challenges of the coming decades cannot be met by policies from the past. Rather than providing panaceas, the IAASTD warns of the danger of trusting in them, offering a comprehensive analysis and a plethora of potential large and small-scale solutions instead (see *Zukunftsstiftung Landwirtschaft* 2013:2/3).

One of the IAASTD's key statements is that a sustainable reduction of hunger and poverty can only be achieved at the local level, in close cooperation with small-scale farmers: 'Over

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<sup>1</sup> Translator's note: The 2013 summary by *Zukunftsstiftung Landwirtschaft* draws heavily on *Global Agriculture*; for details, see Bibliography.

seventy percent of the world's poor are rural and most are involved in farming; [...] 40% of the world population depend on agricultural activities for their livelihoods.' (IAASTD 2009:452). While utterly dependent on local land-use, small-scale and subsistence farmers, the landless, as well as everyone whose livelihood depends on hunting, fishing or forestry are often unable to achieve food security or a secure livelihood (see IAASTD 2009:560). Therefore, the crucial factor in improving poverty is for improved access to land, safe water and production systems to be provided to those who need this most urgently. Another important factor is greater autonomy and independence among small-scale farmers, both in terms of their economic situation, and of their education and knowledge. In this context, one of the key terms in the IAASTD is 'agroecology'.

### **The art of optimising synergies**

Agroecology is the 'science of applying ecological concepts and principles to the design and management of sustainable agroecosystems' (IAASTD 2009:560). In agroecology, traditional and local agricultural knowledge converges with modern scientific strategies and information on a wide range of topics. The strength of agroecology lies precisely in the integration not only of ecological, biological and agricultural knowledge, but also of cultural and social information gathered from a wide range of experts. Complex issues can be resolved through the practical agroecological application of locally available resources; specific technologies are neither categorically excluded nor prescribed.

While agroecology is neither a perfect system nor a universal ideology, it does represent a continuous approach to the best possible solution in any given local, ecological, cultural and social context. In his 2010 report, Olivier De Schutter, at the time the Human Rights Council of the U.N. General Assembly's Special Rapporteur on the right to food, argued that,

As a set of agricultural practices, agroecology seeks ways to enhance agricultural systems by mimicking natural processes, thus creating beneficial biological interactions and synergies among the components of the agroecosystem. It provides the most favourable soil conditions for plant growth, particularly by managing organic matter and by raising soil biotic activity. The core principles of agroecology include recycling nutrients and energy on the farm, rather than introducing external inputs; integrating crops and livestock; diversifying species and genetic resources in agroecosystems over time and space; and focusing on interactions and productivity across the agricultural system, rather than focusing on individual species. Agroecology is highly knowledge-intensive, based on techniques that are not delivered top-down but developed on the basis of farmers' knowledge and experimentation (De Schutter 2010:6).

While the IAASTD neither dismisses nor excludes genetic engineering, it does consider its contribution to resolving pressing agricultural problems as being slight. Moreover, farmers might be facing lawsuits due to unintended contamination by GE plants. Also, patents on GE seeds impede localised breeds and their (traditional) exchange, trade and sale.

By contrast, Syngenta owns a large number of patents on GE seeds. The company's exclusive monopoly control on the seeds has made farmers completely dependent on it. As the patented GE seeds are owned by Syngenta, the farmers are not allowed to use any of the seeds from their harvest for the next sowing. The century-old practice of producing seeds from their own harvests has become illegal. Many countries in the southern hemisphere have been protesting fiercely against this form of control imposed by the distant 'north', others have been imposing stiff penalties.

### **A strategy of sufficiency rather than growth**

After its publication, the assessment was ignored, kicked into the long grass or even ridiculed by the industry and politicians. This slowly began to change three years later. For example, in 2011, the World Watch Institute published the report, *State of the World 2011: Innovations that Nourish the Planet*. The overview of hundreds of large and small-scale agroecology projects in Africa put the spotlight on 'successful agricultural innovations and [...] major successes' (Worldwatch Institute 2011).

Very simple techniques often manage to produce astonishing results: higher yields can be achieved by planting crops among trees and in conjunction with nitrogen-fixing plants such as beans or clover, which also help to enhance soil fertility. Flowering plants between rows of food crops attract useful insects that attack plant pests, rendering agrottoxins superfluous. For centuries, farmers have been selecting and breeding robust seeds that are well adapted to local conditions and capable of producing harvests even under extreme conditions. As numerous studies have shown, these and many other agroecological methods can increase – even double – productivity (Worldwatch Institute 2011; Fao.org).

Various U.N. studies have also outlined a possible transition towards an agriculture that is more diverse and more sustainable. One such study, by the European Commission's SCAR, the Standing Committee on Agricultural Research, goes a step further as it calls for the focus

of future developments to be on constraints rather than growth. As an alternative to the prevailing productivist model of growth at any cost, the committee proposes a 'narrative of sufficiency', in other words, a strategy of sufficiency rather than growth (SCAR 2011).

More recently, the World Food Organisation (FAO) followed suit. In September 2014, the FAO hosted the International Symposium on Agroecology for Food Security and Production. Among the participants were experts including academic professors and researchers, agriculture ministers from several countries, as well as numerous other stakeholder representatives. FAO Director-General José Graziano da Silva highlighted agroecology as a 'promising approach to moving food production onto a more sustainable path in order to help sustainably promote food security, address climate change, and build resilience' (Fao.org 2014).

### **Progress or 'greenwashing'?**

As we have seen, agroecology has been making inroads into the mainstream. Syngenta certainly did not want to miss this particular 'bus'. With much media fanfare, the Basel-based agribusiness company launched its six-point plan for sustainable growth, *The Good Growth Plan*, in 2013. It outlines the company's commitments to promote resource and crop efficiency; regenerate ecosystems and preserve biodiversity; strengthen rural communities; keep people safe and strive for fair labour conditions. (Berne Declaration 2014)

Dr. Hans Herren, together with Prof. Dr. Judi Wakhungu, presided the IAASTD. When I asked him about the credibility of Syngenta's commitments, he replied that some of the things the company had written could have been copied word for word from the 'Global Agriculture Report' (IAASTD). 'However,' he continued, 'the way they understand the concepts is completely different. What we consider to be sustainable is very different from how the industry perceives it. Also, Syngenta does not see pesticides as a problem, but as the solution. Rather than reorganising the system, they simply use new products or technologies. Another issue is the fact that the industry intends to tackle symptoms rather than underlying causes. This is an unbridgeable philosophical chasm that divides us.'

In its detailed analysis of *The Good Growth Plan* published in 2014, the Berne Declaration warned that 'the indicators selected by Syngenta for the assessment of the sustainability

of an agricultural system are inadequate, and do not meet the level found in current research' (Berne Declaration 2014:4).

The following are just two examples: firstly, Syngenta claims to be committed to preserving biodiversity by planting field margins with local wildflower seed mixes across Europe and the U.S. However, it insists on continuing to distribute its highly effective insecticides based on neonicotinoids despite the fact that numerous studies have shown the devastating impact on bees of these highly toxic substances (see also chapter, Global Bee Decline and Syngenta). For a period of two years, both the EU and Switzerland therefore placed tight restrictions on their use, against strong objections from Syngenta. If the company decided to stop marketing its neonicotinoid-based pesticides, the positive impact on bee populations and biodiversity would be far greater than that of planting some field margins.

Secondly, Syngenta claims to be committed to training farm workers on the risks and dangers – and safe usage practices – of pesticides. However, according to the FAO, this is only the third of three measures that should be taken to reduce risk, the first being to avoid pesticides where possible. Pesticides, however, are Syngenta's core business, generating over 70% of its profits. Highly unlikely, therefore, that the company will abandon this product line. In the southern hemisphere, Syngenta still markets Paraquat, a highly toxic herbicide that has long been banned in Switzerland and other industrialised countries. 'According to a study by PAN Germany, Syngenta sells 65 pesticides in Africa, Asia and Latin America that, according to the PAN International List of Highly Hazardous Pesticides, are classified as highly hazardous.' The *Good Growth Plan* remains silent on any intentions to reduce or even generally avoid the use of these pesticides.

### **Sustainable (agricultural) intensification – an elastic concept**

In recent years, the term 'sustainable agricultural intensification' has surfaced repeatedly in the international debate. The term is so vague that it can be taken to mean anything at all, be that initial steps towards a transition from industrial to agroecological agriculture, or, on the contrary, 'business as usual', but in slightly more ecological and more sustainable fashion.

Of course, Syngenta has also been using the term. The agribusiness company evidently means to increase food production efficiency and output while reducing the use

of resources, the motto being 'more crop per drop' – higher yields per drop of water, perhaps even per drop of pesticide. Sustainability must be profitable, on a global scale.

Intensification on its own can also mean a great many things. Syngenta and other agribusiness companies chiefly take it to read one thing: higher yields from more technological equipment and means of production, i.e. more energy, more chemicals, more technology, enhanced seeds and machinery. From an agroecological perspective, however, sustainable intensification means the best possible adaptation and use of available resources. It means greater natural diversity, restoring soil fertility, making careful use of water, increasing knowledge, investing greater human skills and more human labour, and supporting local food systems by increasing democratic participation. This interpretation is diametrically opposed to that of big agribusiness.

So. We do know what tomorrow's fairer and more sustainable agriculture would look like. Awareness of and knowledge about agroecology and the urgent necessity to embrace a new paradigm has reached the top echelons. Whether and to what extent we will manage to change tack is therefore no longer a scientific issue but a political one.

### ***Higher productivity no panacea for hunger***

*In 2014, the NGO Berne Declaration published a detailed analysis of Syngenta's Good Growth Plan. The report also notes that, according to UNCTAD, 'despite the fact that the world currently already produces sufficient calories per head to feed a global population of 12-14 billion, hunger has remained a key challenge. Almost one billion people chronically suffer from starvation and another billion are malnourished', which is why 'hunger and malnutrition are not phenomena of insufficient physical supply, but results of prevailing poverty, and above all problems of access to food.' There is no guarantee, therefore, that 'increasing industrial agricultural production' will enable us to feed a rapidly rising world population.*

*'Hunger and malnutrition are mainly related to lack of purchasing power and/or inability of rural poor to be self-sufficient,' the report argues (UNCTAD TER 2013/Berne Declaration 2014).*

*Moreover, vast quantities of agricultural products are not used to produce food:*

- *In 2013, 40% of the U.S. maize crop went to produce ethanol (fuel).*

- *Some 98% of the global soybean (cake) production goes into animal feed.*
- *Around one third of the global food production is lost or wasted, amounting to some 1.3 billion metric tonnes annually.*
- *In 2013, Syngenta generated 40% of its turnover from pesticides and (soya and maize) seeds destined for the production of crops going into animal feed or ethanol (fuel) rather than for human consumption.*

**Translation from german by Margret Powell-Joss ([www.powelltrans.ch](http://www.powelltrans.ch))**

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<sup>2</sup> Translator's note: Some of the references in the German source text have been amended to reflect original English-language sources, or to complement bibliographical information.

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See also IAASTD 2009; Global Agriculture.

## Abbreviations

AKST	Agricultural Knowledge, Science and Technology
FAO	U.N. Food and Agricultural Organisation
IAASTD	International Assessment of Agricultural Knowledge, Science and Technology for Development, also known as the 'Global Agriculture Report'
PAN	International List of Highly Hazardous Pesticides
SCAR	Standing Commission on Agricultural Research
UNCTAD	United Nations Conference on Trade and Development