Agroecology: towards another agriculture

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'Another agriculture is possible, and the future will be shaped by agroecology.’ That is, in substance, the message of the GIRAF group, co-founded by Pierre Stassart, a researcher at the University of Liege's Department of Environmental Sciences and Management. In a recently published article the group looks into the history and the future of agroecology, an emerging discipline on the global stage, which aims to link up agriculture, ecology and social equity.
It is the story of an Earth, squeezed like a lemon until the pips squeak day after day in order that the best that it produces be extracted from it. It is the story of a world where close to 850 million people - or over an eighth of its overall population - suffer from famine. As the irony of fate would have it, over a half of them are farmers or agricultural workers. It is the story of a society where, under supposedly more developed skies, the scourge which must be battled against is no longer malnutrition but…food wastage: 89 million tons of healthy and edible foodstuffs are thrown into the dustbin each year in the European Union's 27 countries, or 179kg per inhabitant.
Inevitably, one might think that there is something which isn't working properly on this Earth. That we should be able to put into place other modes of production. That a more equitable consumption should be able to come to the fore.

That is precisely the issue for agroecology. A neologism which Pierre Stassart, a researcher at the ULg's Department of Socio-economics, Environment and Development, summarises in a few words. 'Agroecology involves bringing social equity and ecology into agriculture.'

Along with eight other specialists from different backgrounds, he is a member of GIRAF (Groupe Interdisciplinaire de Recherche en Agroécologie, an FNRS agro-ecology interdisciplinary research group). This group, founded in 2009, has just published an article entitled L'agroécologie : trajectoire et potentiel. Pour une transition vers des systèmes alimentaires durables (Agroecology: trajectory and potential. For a transition towards sustainable food systemss), which is in reality the first chapter of a book whose publication is planned for september 2012 (3). This text has a double objective: on the one hand to analyse what this emerging discipline today covers and to define on the other hand a series of principles which should guide its development.

Green Revolution

'This movement was born in the United States at the beginning of the 1980s,' explains Pierre Stassart. 'From the beginning it leant on a criticism of the model of development in the countries of the South.' At this time the 'green revolution' was at its peak. The technological advantages in play since the beginning of the 1960s pushed the developing countries to turn their agricultural practices upside down. New varieties of high yield cereals, irrigation, mechanisation, the use of fertilisers, etc. It was through the dissemination of this technological package that development was thought through, the objective being an intensification of agricultural productivity.

It is against this biotechnological model that agroecology positions itself, in other words against this paradigm which aims at absorbing the food question exclusively through an intensification of production thanks to technology in such a way as to respond to the growing demand of the global markets.

'The basic principle of the agroecological model is the reorganisation of work both at the level of employment and distribution whilst transforming the modes of consumption,' explains the researcher, 'in particular by trying to resolve the problems of waste by reducing the consumption of meat in the food system. In Europe for example, 65% of crop production is geared towards livestock production. In our opinion the productionist hypothesis will not be sufficient to resolve the problems of hunger in the world. Other pathways have to be explored. But mind what I am saying: we are not ruling this model out. Several different ones can cohabit.'

A Tom Thumb

Up against the the biotechnological trend, widely prevalent today, agroecology still has the appearance of a Tom Thumb. But an event has recently accelerated the questioning of the productivist model. In 2007-2008 several regions around the world were affected by a strong climb in the price of basic foodstuffs. The prices of wheat, rice and soya reached unprecedented peaks. At the root of the problem: classical factors such as poor harvests in certain production areas and the growing urbanisation of poor populations but also for the first time the growing place taken by biofuels and speculating on foodstuffs. Developed countries are turning massively towards biofuels to counter the increase in petroleum products, thus reducing the availability of certain foodstuffs. If to that is added a touch of financial crisis, cleverly mixed together with a whole series of
other factors, we arrive at a series of famine based riots in several developing countries: Haiti, Cameroon, Egypt, Indonesia, Senegal, the Ivory Coast, Mauritania, Mozambique, Morocco, Burkina Faso, the Philippines, Thailand, Bangladesh, etc.

In the face of these events the question of another agricultural model - which would integrate not only food issues but also energy, environmental and climate factors - burst to the front of the political and media stages. Little by little agroecology is coming to be considered as a viable alternative. 'Whilst still in a minority, this movement is finding more and more echoes from the international arenas, notably from the United Nations Special Rapporteur on the Right to Food.'

Agroecology is a unifying concept which proclaims its polysemic character. It is impossible to summarise it in a single sentence, which to some extent makes understanding it more arduous. In its article the GIRAF group clarifies its arguments through the historical evolution of the definition of agroecology. Three definitions are thus offered, one taking into account the sustainable nature of agriculture, another focusing more widely on agrofood systems, with the third stressing the fact that this concept does not stem exclusively from either scientific research or from practice, and nor does is stem from social movements, but indeed results from the interaction between these three areas.

Agroecology moreover responds to five historical principles:

1. Enabling the recycling of the biomass.
2. Guaranteeing favourable conditions for plant growth, in limiting to a maximum the use of fertilisers, petrol and pesticides.
3. Ensuring a microclimate based management, in other words in relation to the climate of a given region.
5. Allowing biological synergies between the component parts of the ecosystem.

Over the course of time other methodological precepts have been grafted onto it, such as the fact of having to favour management over the long term and not only over the short term, or the wish to consider diversity as an advantage rather than a disadvantage that has to be ironed out at all cost. And without forgetting certain socioeconomic principles, added by the GIRAF group: involving researchers, producers, consumers and the public authorities, favouring the possibility of autonomy in relation to global markets and finally favouring the diversity of knowledge, both local and traditional.

'The land belongs to those who cultivate it'

Via Campesina (the 'peasant's way' in Spanish), which was one of the first international movements to draw on the agroecological vein, illustrates this concept very well. It put down its roots in the 1980s, but was officially established in 1993 at a conference in…Mons (Belgium), which brought together 46 representatives of peasant organisations, agricultural workers, small producers, indigenous peoples, etc. These organisations, from South America, North America, Europe, etc., came together around the idea that, despite appearances, the North and the South in the end shared a series of common interests which they had to defend together. Via Campesina today calls for respect for small and medium scale peasant producers and has set itself eight work axes: sustainable peasant farming, agrarian reform and access to water, food sovereignty, biodiversity, the protection of young peasants, women, migrant workers and human rights. The movement regularly organises conferences, awareness raising activities, support campaigns etc. in many places over the world. Its slogan is: 'Stop the monopolisation of the lands: the land belongs to those who cultivate it.'

But the future of agroecology will also be shaped by a whole series of initiatives which are currently in the stage of 'being developed.' Such as agroforestry, a mode of exploiting agricultural land in combining the planting of
trees amongst crops and pasture land. A practice which allows food production, energy issues and biodiversity to be linked up. There is another type of so-called 'mixed' system: multiple cropping-livestock breeding (in other words the opposite of a monoculture), which aims to combine crops and livestock breeding in order to draw out the advantages of their complemetarity. The question of seeds also features in the debate. Today the development, the production and distribution of seeds are in the hands of private companies. Farmers no long have the right to select and distribute their own seeds. Everything now is filtered through the seed industry, which imposes its standards of homogeneity and standardisation. This approach has sparked the disappearance of a great many varieties. The idea is thus to return to a mode of production more adapted to the new challenges in terms of resilience (climate change), biodiversity (taste, etc.) and local autonomy. Finally one could mention participatory certification, this attempt to reintegrate consumers and producers in the process of the certification of organic food from which they have been excluded up until now.

'The future will also be shaped by education,' concludes Pierre Stassart. 'It can be noted that there exists a strong demand amongst students, a desire to invest in a model capable of renewing agroeconomy in responding to the social issues and the planetary challenges: energy, biodiversity and climate change, notably. It will also be necessary to take part in developing the ideas in the international arenas and ask ourselves this central question: in the face of the current impasse of non-sustainable systems, how can we organise the transition so that another model such as agroecology can become implemented? Change often involves learning how to learn differently, which can involve abandoning, whilst transforming it, the way of learning which has led us to the current impasse.'

(1) Source: the European Parliament "Parliament calls for urgent measures to halve food wastage in the EU"
(2) Catholic University of Louvain, the Free University of Brussels, the University of Ghent, the Walloon Agronomy Research Centre.