

Conference Notes
"A plate for our health, the one of the planet and of all its inhabitants"
given by Daniel Cauchy, April 24, 2009
for "Nouvelles Alternatives" (in French)

The challenges that are threatening presently both life on the planet and humanity are linked, and they are at all levels. It is therefore important to address them systemically, rather than trying to solve each of them regardless of the existence of others.

For, these problems are depending on each other, are entangled into each other. And solving one of them alone consist in drawing the yarns from ball of knots tightening them.

To illustrate this, Daniel Cauchy gives us the example of food "miracles" recommended (by some "experts) for their illusory benefits. He calls them test-tube food, because this food is analyzed by removing it from its context, namely : the rest of our diet, other factors affecting our health, and also the nature in general, the food chain, but also the cultivation method, origin and transport, the men who produced them, etc.

Some scientists in their laboratory show that the mango, for example, is a miracle fruit because it contains such and such micro-nutrients that help maintain health balance for humans.

This doesn't make sense, for different reasons. First, the idea of promoting to eat systematically a non-local food, which was never part of the diet of a given population. Second, if we really had to apply this at large scale, only for Belgium, it would require to produce, in a distant country, 10 million mango weekly or monthly. Which country in the World would be chosen to serve us this way? And how many airports should be built to import millions of tons of fruit, just for the people of a chosen country?

If basically the idea is intended to be constructive and meant to improve the health of all, when we contextualize it in a more comprehensive and more realistic way, we take the measure of the non-sense of the proposal.

The food consumption model works like the society in general: it is in crisis. And it is not a temporary little crisis. The question is then : What will still be affordable to eat in a few years?

If we look at the historical evolution, those last two centuries, the farming model in our region, this is what we see :

In the 19th century: the farmer uses mechanical tools and a horse for his work. His labor, the land, the sun and water, bring the whole food production that can be translated into calories. There are no other ingredient or artificial technique used, except secondarily. The farm produces energy, in terms of food calories.

After the 40-45 war: agriculture and livestock farming is more mechanized with the use of oil. This time, for 8 food calories produced, a fossil calorie was necessary.

Currently in industrial agriculture: we use an average of 10 fossil calories to produce a single food calorie.

But that disproportion goes further. Taking into account the fossil energy used in transport, refrigeration, cooking, and other manipulations that are currently used before the food reaches our plate, we get an average of 40 fossil calories used to produce a single food calorie.

Even better (worse rather) : in the case of meat, 76 fossil calories will be needed to produce one calorie of "industrial" beef.

And yet we are talking here only about food production.

Let's talk now of the loss of agricultural land that occurs in parallel.

Currently soil depletion is going 18 times faster than its ability to regenerate. In other words, for example, a year of beet crop will requires between 10 and 100 years for the soil to recover its fertility. Yet beets is cultivated on the same soil, from one year to another. In fact, this is made possible by the massive use of fertilizers. And those are produced, once again, from petroleum.

Agricultural land subject to this type of operation, is losing 6 to 18 tons of soil per ton of feed produced.

The stones from the soil naturally tend to be covered with it. Yet farmers are now having to annually collect stones on their land, due to the fact that successive crops leads to important soil loss.

Another aspect of the problem, less known to the public: irrigation.

China is currently growing massively its soil, and to do so, they draw groundwater. This includes, for an important part, fossil water (which are not refilled, as in our country, via the streaming of rainwater), the Chinese government knows that intensive agriculture will soon be impossible. To compensate this, China is purchasing thousands of acres of farmland around the world.

We are indirectly in the same situation. In Belgium, 60% of our vegetables are imported. We are also dependent on import at 60% for all our products.

Regarding water consumption, the Belgian uses an average of 106 liters of water a day in his daily life. When taking into account the indirect consumption, which means the water used in industry, public services etc., the daily average consumption of water for a Belgian person is around 1000 liters. And if we want to be quite complete, taking into account the various imported products, including food, every Belgian indirectly consumes 5000 liters of water per day.

The "production" of a kilo of beef, for example, requires between 20,000 and 250,000 liters of water (figures vary between sources) and 10 kg of grain.

It is not, of course, water from the watering place, but also water necessitated for the production of grain that feed the animal. And depending on the place of production of the grain, a phenomenal waste may occur. In southern France, for example, when only 3% of it is absorbed by plants.

What then about quantities used for the fields of beans planted in warm regions of Kenya or Egypt. Moreover, they are transported by plane, throughout the winter.

There is water shortage almost everywhere, according to specialists half of the population of the earth live in areas where ground water is running out, and however, consciences do not awake, because each looks only his own square meter ground.

In Greece, in Palestine and in Egypt, for example, ground water are so exploited that they are becoming salty, because slowly, the sea water leaks into it. And therefore, the fields irrigated by this salted water, are getting desert. Vicious circle. More than half of the World population lives in countries where ground water are running dry.

If one looks at the human side, at a global level, the situation is equally dire. In 2007, there were 854 million people suffering of famine. Currently (spring 2009), they were 976 million. We can add to that about a billion people badly nourished. This means that they have enough to eat on the quantity level but the quality is lacking: they lack certain nutrients, and this results in a poor health for the majority, the disease for many, and death in the short term for some.

To this can be added about one billion people living in absolute poverty, ie less than two dollars a day. And it goes on getting worse.

Our food style is really absurd. Here's what we can tell about it:

"The budget for food has declined dramatically in our prosperous regions and is about less than 15% of the average household income (2008 data – Belgium)." (1)

"78% of agricultural land is used to feed some tens of millions of the richer people ..." (2)

"At the global scale, livestock accounts for 60% of grain production." (2) "The intellectual elite in developed countries considers as perfectly normal to worry about overpopulation in the World, but always forget one fact: the real overpopulation is that of livestock." - Jeremy Rifkin, economist.

There is an average of 280gr/day/person meat on the Belgian plate.

"Vandana Shiva estimates acreage for this indirect use in the 'South' to 7 x the agricultural area of Europe." (1)

"Our (food)plate has made a journey of 2500 km on average!" (1)

Further "The difference in cost per worker between the small farmers in the South and the modern

farm business is now from 1 to 1000!" (1)

"The result of a marvelous progress is in fact the result of a massive despoliation." (1)

"The game of liberalism is a zero-sum game: what some win others lose." (1)

For further details, see (in french) "le jeu de la ficelle":

<http://www.quinoa.be/formations-animations/formations/jeu-de-la-ficelle/> created by Daniel Cauchy.

Especially from page 13 to page 83 of pdf document of the game:

http://www.quinoa.be/wp-content/uploads/2012/05/fr_farde_web3.pdf

Ultimately, nearly half of humanity is in food crisis. This mainly concerns the populations of the south, until recently known as "developing countries." But the phenomenon is spreading and is beginning to affect people financially and culturally disadvantaged in western countries. Cheap food is not lacking, but its quality may seriously harm the health. In the favored sections of the population, people buy fresh, unprepared food. Conversely, the food on offer in the hard discounts can be compared to the nuggets, for example: the quantity of meat is low, mostly added with breading and fat, ingredients which are much cheaper. But this type of food leads in the long term, to obesity, type II diabetes, cardiovascular diseases, and others. The weight difference between favored social classes or not, varies from 10 to 15 kg. The difference in longevity is also an established fact. People live less long in the most disadvantaged social sections. (3)

Another catastrophic indicator is the current phenomenon of the disappearance of bees, billions of them. By region, a decrease in their number from 60 to 90% has been measured. In states like California, thousands of hives have been imported to make possible the pollination of fruit trees (among others).

The reasons of the disappearance of these populations are multiple, it is extremely difficult to stop the phenomenon. And "75% of the crops that feed humanity and 35% of food production depend on pollinators!" (4)

Einstein said, "If the bee disappeared from the face of the earth, man would only have four years to live, no more pollination, no more plants, no more animals, no more humans."

In his Articles in (1) (4), Daniel Cauchy also mentions the current loss of biodiversity.

"FAO estimates that Europe has already lost 90% of its varieties of vegetables, remember that the thousands of varieties of apples and French pears are reduced to a dozen, and it is the same for cereals." (4)

Our eating habits are also responsible for the disappearance of farmers. Globally, 50 million of them disappear every year. France lost in 50 years 92% of its farmers.

And finally, all this is related to global warming of the planet: "Remember that agriculture is responsible for 25 to 30% (according to the authors) emissions of greenhouse gases, the loss of 1% organic matter in the soil releases 20 tons of CO₂ per hectare." (4)

So we are indeed in a social and environmental deadlock.

A possible alternative to change this trend is the return to local products, leaving the role of consumer, that is to say getting involved personally, financially, and actively in a trusting relationship with a vegetable producer, to ensure the sustainability of its business, and this through the creation of local cooperatives.

For, when we continue to buy local, organic, etc.. in supermarkets, in health food shops or on markets, we persist in a "consumer" attitude, where the producer doesn't have any guarantee to survive in the long term.

In Belgium, the share of organic production in agriculture is only 3% (against 18% in Italy for example).

It should be noted that in Wallonia (approximately 3.5 million inhabitants), there are only 40 organic growers. If we realize that each one can provide about 200 households in vegetable, it is far from being able to feed the entire population. In addition, 76% of agricultural land is used to feed livestock.

It is then not possible to advise local and organic food for all, through traditional channels, it is essential to create new alternatives through cooperatives.

Most environmental organizations and institutions are yet advising the contrary, and it is simply incoherent.

It is not credible. It's necessary that citizens show solidarity, create cooperatives, and help the organic farmer by working at harvest period when the farmer and his staff cannot ensure it on their own. In this context, the cooperative formula implies that each member participates in the risks as well.

The double speak is also part of the education of our children, when we preach proper and balanced nutrition and we criticize the candy, sweets, fried foods, while the child's environment calls him continuously to consume such products through vending machines, supermarket shelves, advertisements, everywhere around him.

Teach one hour dietetics per year in schools, while putting children to a continuous pressure to eat unhealthy, is a schizophrenic speech.

On what criteria can we choose food that ends up on our plates?

1 / Local

The distance of production can vary from the one to the other : 50 - 100 - 250 km (30 – 60 -150 miles). It is also necessary to differentiate between transport made by plane, train, truck or boat. The ship consumes and pollutes between 100 and 300 times less than the plane. The truck consumes and pollutes between one and eight times less than the plane. (5 *) (6 *)

When food is produced in the cooperative to which one belongs, these questions no longer arise.

2 / Fresh

This implies : seasonal.

Food (in an industrial chain) is frozen by -40 °C (-40°F), then temperature is increased to -18 °C (-0,4°F). For an average of 6 months storage, a frozen food calorie requires an average of 12 fossil calories.

3 / Farmer

The aim is to upgrade the traditional production (local, organic), compared to industrial one.

4 / Organic

This means much more than the prohibition of the use of pesticides and chemical fertilizers. It is important that the soil remains alive, not only for the crop but for the preservation of the soil itself.

For example, a soil from a chemically grown grain field, during a period of rain, will absorb 1 mm of water an hour, the rest of the water will run off the surface to other places.

In comparison, forest soil can absorb up to 150 mm of water an hour.

The more the soil is impoverished, the bigger are erosion, risks of landslide and floods.

Rich soil, is among others related to the presence of worms living into it, and working in the formation of humus and soil aeration via their galleries. For the same area of soil, if it is organic, 3 tons of worms can be found, and if it is industrial farm soil, it contains only a few hundred kg. But the galleries dug in the ground also allow water to be absorbed.

Some argue that organic farming does not produce enough. This is only partially true. In cold temperate areas (as in Belgium) organic farming reaches 80% of industrial culture profitability. In warm zone (eg tropical) profitability is equal or greater than that of industrial agriculture, as the humus mineralization is faster with warm weather.

It is therefore possible to feed the humanity through organic farming.

There are even highly productive farming models, when combining on the same soil, plants, trees,

shrubs and tubers, using for each culture type a specific space, a different level, such as for example palm, coffee tree, bean plants, and potatoes.

Yields are sometimes up to four times higher than the monocultures.

5 / Vegetarian diet or very substantial reduction in intake of meat

The area required for the vegetarian or for meat-eating is very different. For example, an American diet (US) rich in meat requires an hectare of land for one person (10,000 m²). An Indonesian or Thai diet, poor in animal products, requires only 7 acres (700 m²).

These figures vary by source.

For example, each Canadian uses indirectly 950 kg of grain per year, even if he actually eats directly only 180 kg per year.

Indeed, 7 to 10 kg of grain are required to produce one kilogram of meat (beef). So more we eat meat, more area is needed to live.

In Belgium each inhabitant eats an average of 280 grams of meat per day and 600 grams of animal products in total.

Or WHO recommends eating about 400 grams of meat per week, or 80 grams maximum per day.

6 / Natural

This applies to products which have undergone the least changes possible: non-irradiated, uncooked or precooked, unprocessed, unpackageed.

7 / Ethics

To all these points, which concern the preservation of the environment or the capacity to feed everyone, or the health of people consuming food, it is important to add an ethical factor to take into account acceptable living conditions for those who produce them.

If our food model correspond to the 7 criteria listed above, it is still necessary to establish a balanced diet.

Up to now we have spoken about food, its production, its transport before it reaches our plates.

But what kind of diet are we supposed to adopt, considering the seven criteria (local - cost - farming - organic - vegetarian - natural - ethic)?

If we ignore all these new theories (mostly born in laboratories), that are not very consistent, and sometimes contradict each other; each one has to adapt his diet to what works best. But to fit truly to a healthy environment, a traditional diet, from the time when everything was produced locally and on a human scale, is the most conceivable, the most suitable.

What was the traditional diet in Belgium before the arrival of all these foreign ingredients, these precooked products, this orgy of meat, sweets and fried food?

a) The most important ingredient is cereals.

Cereals include all the grains composed mainly of carbohydrates and 10-15% of protein. They are not only composed of grasses (wheat, rye, etc.) but also of other plants such as buckwheat, millet, quinoa, corn. We can eat them in form of grain, flour, flakes or bread.

b) The second ingredient can be eaten as a supplement to cereals. It's the vegetable proteins, mainly the different kinds of beans and peas which there are thousands of varieties, including beans, peas, lentils, soybeans, alfalfa, lupine,

It is important to combine them with cereals, because the proteins from cereals are complementary to the ones from the beans etc., and together, they are better assimilated, and are thus equivalent to a protein intake of the meat.

The combination of cereal with milk products is equivalent.

c) The association must be supplemented by a lot of seasonal vegetables (fiber, vitamins, minerals) - cooked, raw or lacto-fermented (such as sauerkraut, for example). In this way, we can avoid deep freezing. The lacto-fermentation makes possible to preserve vegetables for several months, while keeping the vitamins.

d) To these ingredients we can add more variety of foods (there are thousands): including mushrooms, berries, animal products (which are seasonal - we have forgotten that lately - such as eggs for example), oils and oleaginous seeds.

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site : <http://sechangersoi.be/EN/EN-home.htm>

page : <http://sechangersoi.be/EN/4EN-Articles/A%20plate%20for%20our%20health.htm>

References (from French texts)

(1) Excerpt from the article in french "L'alimentation : un thème pour se questionner et se positionner !" written by Daniel Cauchy

(2) See the « Jeu de la ficelle » in French :

<http://www.quinoa.be/je-minforme-3/outils-pedagogiques/jeu-de-la-ficelle/>

(3) see in particular: Savoir manger et « L'injustice sociale tue » (in French)

<http://www.monde-diplomatique.fr/carnet/2008-09-02-inegalites>

(4) From the article in French « Alimentation biologique » written by Daniel Cauchy

(5 *) Excerpt from a little article (in French) in Agenda + February 2006 p.32:

"Currently, one ton transported for one km consumes 1000g of oil by air, 400g per van, 380g per truck, 80g by river barge , 11g by freight train, and 3g by motorized boat."

(6 *) CRIOC gives the following figures for the transport of food (CO2 emissions per ton per km):

- Boat: 15 to 30 g / ton km;

- Train: 30 g / ton km;

- Car: from 168 to 186 g / ton km;

- Truck: 210-1430 g / ton km;

- Air: 570-1580 g / ton km.

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