

THE BIGGEST CHALLENGE OF OUR TIME

Gunther Hauk

Crises come in all shapes and sizes, but all have one and the same message: change your ways, alter your direction. In the last 100 to 150 years we have faced a multitude of crises that have all converged into a broad and powerful stream that challenges us on many fronts: ecological, nutritional, medical, educational, political, financial, cultural and spiritual. Since agriculture touches most every aspect of human life, it is one area of our culture that influences—and is influenced by—nearly all of the crises listed above. But how did we get to this point that agriculture plays such a critically detrimental role?

The most drastic change witnessed in agriculture came around 150 years ago, with the industrial revolution. Before that, all aspects of farming—viticulture, horticulture, animal husbandry—adhered to and respected the inherent laws of nature:

A limit to size

The size of a farm, the number of cows, horses, pigs, and chickens was determined by what could be managed well by the farmer and the family. A "Morgen" was the land that could be worked with a horse in one morning ("morning" in German, = *Morgen*) and that varied between 1/2 to 2 1/2 acres, depending on the location and climate.

Diversity

There were practically no monocultures before the industrial revolution. Farms grew a variety of crops and had a healthy mix of domesticated animals—in the sense of "Oh McDonald had a farm"—which supplied the fertility needed for the crops.

Intimate dependence on location

Natural resources, climate, geology, geography, and local cultural norms determined the crops and which domesticated animals predominated.

These laws of nature were usurped and discarded by our fascination with technological progress. We didn't realize that enormous growth in size, specialization (mono-) and independence from locality are the rightful laws that govern industry—but *not* nature. Agri-businesses and associated companies now grow to enormous sizes, take advantage of their specialty, and become ever more independent of location, climate, and country.

Now we have an agriculture whose "success" depends on:

- *monocultures—ignoring the law of diversity;
- *enormous size—5,000+ acres can easily be farmed by one farmer as a side-job—ignoring the law of meaningful size;
- *growing crops in locations that innately are hostile to this crop—like hydroponics or growing rice or alfalfa in the rather dry Sacramento Valley—ignoring the law of interdependence with the natural environment.

All these factors necessitate enormous amounts of poisons in order to protect the nature-estranged, weakened plants from being overtaken by insects, fungi, and bacteria. In the case of factory-farmed animals, the adverse effects are masked by administering daily rations of antibiotics. Genetic altering plants and animals to withstand the poisons just adds to the problems.

This path of developing agri-industry in lieu of agri-culture has led us to the present host of crises. Not that there haven't been repeated wake-up calls. The frogs and bats were in danger in the 60s and 70s. But who loves frogs and bats enough to make serious changes? Then the honeybees tried to touch our hearts. In 1996 the NY Times article "The Hush of the Hives" did shock people, but the chemical companies promised us shallow, dangerous and short-lived solutions to the

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varroa mites. Ten years later, a still bigger shockwave rippled through the country with Colony Collapse Disorder.

Let another 12 years go by and by 2018 the most severe crisis has surfaced: the frightening disappearance of insects. The NY Times article from November 27, under the headline "The Insect Apocalypse is Here" made it clear that we cannot ignore this call for taking this crisis for what it is: A CRISIS. How will we solve this problem? There is only one way: by solving it! By identifying the real causes and finding real solutions.

Presently, there is a big wake-up call in Europe since the Krefelder study (Oct. 2017. www.plos.org) revealed that in the last three decades 75% of all flying insects have disappeared (in respect to mass, not numbers). 41% of 560 species of native bees in Germany are on the endangered list or already extinct. We in the USA are not far behind these statistics. 28% of all North American bumblebees are facing some degree of extinction risk (Xerces Society "Bumble Bee Conservation) and for the over 4000 species of native bees we don't have accurate numbers. One thing is clear: they all are under severe attack by the host of pesticides, insecticides, fungicides, herbicides, also by habitat loss and the diminished and either poisoned or over-fertilized source of forage.

"We have a global mass extinction at a speed not achieved since the time of the dinosaurs", said Andreas Segerer in February 2019, head of the ecological state collection in Munich.

However, there is a huge difference between the extinction of dinosaurs and the extinction of insects. Most of these insects play a fundamental, essential role in providing healthy ecological tasks:

- They are the great recyclers of decaying plant matter and animal cadavers or feces. They create humus, the basis of good agriculture, as for example the scarab beetles and flies.
- They are the #1 food source for a good number of bird species, small mammals, reptiles and fishes. The number of birds feeding on insects is already being reduced. Most people don't realize that the dropping insect numbers also have a huge effect on fish. There are 14,500 species of caddis flies (trichoptera) in the USA, the larvae of which not only provide food for trout and other fishes, but help to clean the water. The 100+ species of sunflies (heleomyzidae) are such great recyclers, as the larvae feed on decaying plant and animal matter, feces, and fungi.

In a 2019 television interview, animal ecologist Johannes Steidle from the University Hohenheim, Germany, warned that if we cannot reverse this extinction of insects, we will certainly witness an ecological collapse. The only way we can solve the problem is by a drastic reduction of pesticides, by giving up monocultures for the sake of diversity, and by getting back what Steidle calls "structure" into our fields and pastures: hedges, diverse forests, stone walls for habitat of small mammals, lizards, insects, snakes. What is often overlooked is the fact that many insects, especially butterflies, rely on a forage of wild flowers and "weeds", which, if they are lucky enough to bloom, will have a depleted nutritional value for the insects because of over-fertilization.

No-one in their sane mind will deny that our "clean" agriculture has severe drawbacks and that a radical re-thinking and change in course is the only way we can solve these problems. This includes rethinking which farmers need government support/subsidies and which ones need to be taxed for their destructive methods.

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Many people don't know that our present way of farming using only mineral fertilizers is reducing humus 80 times faster than nature can replenish it. Since humus holds its own weight in water, the side-effects of humus reduction are ever more floods and ever more droughts.

There is no doubt that our present way of farming has detrimental effects on food quality and, in turn, on human and animal health. The explosion of the "supplement" industry is an obvious sign that our food is not giving us what we need. Already early in the 20th century, the scientist and philosopher Rudolf Steiner warned: "...under the influence of our modern philosophy of materialism, it is agriculture—believe it or not—that has deviated furthest from any truly rational principles. Indeed, not many people know that during the last few decades the agricultural products on which our life depends have degenerated extremely rapidly (June 1924). In the decades preceding this statement, conventional N-P-K agriculture had just become widespread.

One would think that with the help of technology, farmers nowadays would be better off financially. A statistic I once read says that in 1920 a farmer received 60 cents for every dollar of products sold. This has been reduced to 10-15 cents. In 1960 the average family spent 36% of its income on food, now it is about 15-20%. With cheap food, we certainly can spend a greater amount of our income on everything else but food. As a consequence of the consumer having more income to buy more "things", it is the farmer who gets loaded with the need to make the farm ever more productive—by all means. The care of the land, the animals, the water, the air-- all that is sacrificed on this path of agri-industry. And lastly, the human being is also part of this sacrifice. No wonder that so many family farms have folded in the

last 40-50 years! We now have more people in prisons than on farms.

The core of agriculture, as well as of culture, depends on the basic act of **cultivating, of caring, of nurturing**. Modern farming is almost exclusively based on **extracting, manipulating, controlling**. It is frightening how these latter three aspects seem to be overtaking our lives, our economy, and even our politics at a rapidly increasing speed.

If we do not wish to be confronted with the frightening reality of an ecological collapse which would not only disrupt, but cripple all aspects of our lives, we have to go into action quickly. We are about to ram the proverbial iceberg and there is no time left that we can say, "Let us finish our game of scrabble first and then we'll see what we have to do".

There is no doubt that a real change in course will be highly disruptive of our normal way of life. It not only involves our way of farming, but it will seriously impact chemical companies, exports, imports, the trucking industry, food stores etc., etc.

But if we fail to heed the message of the crisis, i.e. to change our ways, there will no longer be a normal way of life left. In the first scenario, we will be in charge, in the second one we suffer the consequences of our neglect.

This may very well be the last chance we have that we are *free to choose!*