

Industrial agriculture destroys biodiversity and heats up the planet, Peasant farming renews biodiversity and cools-off the planet.

While plants keep carbon in the soil, the industrial agriculture of the Green Revolutions is actually liberating more than it stores, thus aggravating climate change. The elite varieties of the seed industry impose to the fields the artificial conditions of laboratories where they have been selected: they are unable to grow without chemical supports (fertilizers, pesticides) and technologies (heavy mechanization, intensive irrigation, etc.) that replace the farmers' work with fossil fuel consumption, destroy the soil's humus, which retains carbon and are harmful to health and the environment. New forms of biotechnologies that make plants produce insecticides instead of being spread or that pretend to preserve the soil by covering them with herbicides are a mere illusion. No artificial manipulation of genes will ever allow plants to adapt by themselves to climate change or other modification of local environmental conditions. They simply offer an excuse for the private control of the industry over seeds and knowledge. Factory farming and biofuels provoke a huge amount of protein and vegetable fiber waste, which are currently missing from adequately feeding an important part of humanity. Monoculture forests are actually freeing more carbon than what they are supposed to « trap ». These industrial productions destroy food crops, forests, rural and indigenous communities, which, being stripped of access to land and work, constitute the majority of those populations who are suffering from hunger today. They aggravate the global environmental, social and food-related crises.

Yet, men and women farmers around the world are offering simple and efficient solutions responding to the loss of biodiversity, climate change and dietary needs. The humus, which keeps carbon in the soil, is the fertilizer that peasants use and these modes of production cool off the planet. Pastoralism maintains heathland that solidly retains carbon at the same time allowing a fertility transfer advantageous for crops. Indigenous people ensure the vitality of forests, which allow us to breathe. Crop rotation, associated cultures, animal husbandry combined with multiple cropping, agro-forestry...all constitute the most intensive agricultural systems per unit of surface, while offering work to a large number of farmers. For this purpose access must be guaranteed to such common goods as land, water and reproducible seeds, which have been confiscated by industry, and priority given to local markets that avoid long distance transportation and the wasting of fossil fuel energy.

Peasants' seeds are selected in the fields together with peasants. They require less inputs, heavy mechanization and intensive irrigation, all fossil and carbon-based heavy energy consumers. Their inter-varietal and intra-varietal diversity as well as their variability actually allow them to adapt by themselves to the diversity of local geographic conditions and climate change. Industry reaps its benefits from economies of scale and cannot therefore select thousands of varieties necessary to all local geographic conditions. In order to increase its sales, it only offers seeds, which are non-reproducible by peasants. Locked by technologies (hybrids, terminator), patents and PVC, they can no longer evolve to adapt to the diversity of local conditions and climate change. In France these industrial seeds are the only ones available on the market as peasants' seeds are forbidden by legislation. Firms who, like Kokopelli, disseminate reproducible traditional seed varieties are brought to court.

This is exactly why many farmers, organic or non-certified but wishing to get rid of chemical fertilizers and pesticides, have gathered within the Peasants' Seeds Network (France) and decided to select themselves their seeds. For this purpose they recuperated the last reproducible varieties still cultivated or found them in public collections still accessible.

They cultivated them several years in a row without any chemical products so they may adapt to local conditions. Some of these living collections on one peasant's farm include up to 200 wheat or tomato varieties. They have then evaluated them in order to retain and conserve those with the most interesting features. Some varieties are then cultivated for the purposes of production. Others are subject to breeding programs carried out in the field, with techniques available to farmers who are also their end-users : pressures of selected breeding, positive or negative mass selection, mixture cultivation, more or less directed crossing...

Some of these programs are followed by public or private researchers, who accepted to leave behind the laboratories in order to work in the fields with farmers. Their confrontation with farmer's knowledge, non-scientific, but just as relevant and extremely complementary to science's views, has often convinced them to abandon some academic certainties. Today many of them are committed to participatory breeding despite the often implicitly expressed repression of research institutions. Nevertheless the first results are confirming their choice: in the absence of chemical products, all varieties originating from participatory breeding are more productive in difficult conditions, particularly in years of drought. Their nutritional and gustatory qualities are in demand from consumers. The bread made of traditional varieties, declared to be inadequate for industrial bread-making, can be consumed by persons allergic to modern glutes, as long as the flour is made by a stone mill and processed with natural sourdough. In organic farming, durum wheat recovers its qualities necessary for their processing into semolina or pasta. Artisanal sauerkraut becomes consumable, maize gains in proteins, the vegetables mainly in micronutrients and mainly in flavour...

It is difficult to cultivate each year all the varieties that we wish to conserve. Inspired by the Brazilian example, the first collective seed houses are developing in France. Based on a joint space where seeds are conserved for a year or several years in a row, the informal exchanges between farmers and gardeners are being organized and the seed stock is collectively managed at the local level. Exchanges are also taking place between different seed houses. The seeds do not belong to farmers, but to the collective embodied by the seed house and are only disseminated within the collective's members. This strategy allows to stay within a legal framework, which authorizes the exchange of non-registered varieties when carried out under conservation, research or breeding programs. Seed companies hold against farmers the practice of selling on the market the products of harvests gained under these programs, but they have not yet found a law that would ban this practice...

The global market, the privatization of common goods and industrial agriculture are the causes of current environmental, social and food-related crises. The magic solutions presented under this framework can never solve these crises, they could only aggravate them. Only the respect of food sovereignty and the collective rights to the use of common goods, such as land, water and reproducible seeds, by farmers can nourish and cool off the planet.

Guy Kastler, Réseau Semences Paysannes (Peasants' Seeds Network), France, Biodiversity Commission of Via Campesina