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AGRICULTURE, FORESTRY, WATER:
SECTORAL POLICIES IN THE FACE OF CLIMATE CHALLENGES

Farmers' protests spread like wildfire across Europe last winter. Their reasons included exasperation with environmental standards, restrictions on irrigation and restrictive goals with regard to greenhouse gas emissions. Alarm bells are ringing and must be taken seriously. They point to the limits of siloed approaches faced with the challenges of global climate change and the loss of biodiversity.

The success of the European "Green Deal" requires the reconfiguring of sectoral policies to address the various forms of resistance that are sure to emerge on the path to "net zero" by 2050. This concerns fossil carbon and the energy transition, the hard part of which still lies ahead of us, but also and to an even greater extent "living carbon", beginning with agriculture and forestry, without which carbon neutrality is impossible.

CAP and climate change: the limitations of superficial reforms

Let us start with agriculture. This is by far the sector of the economy most heavily affected by European regulations. Launched in the early 1960s, the Common Agricultural Policy, or "CAP", helped to transform European farming systems thanks to a system of guaranteed prices, which enabled the European Union to close its massive trade gap in food and agricultural products.

This original CAP was a victim of its own success. As soon as supply outstrips demand in a market, the cost of maintaining prices rockets. In order to curb rising costs, the CAP was subject to an in-depth reform consisting of the introduction of quotas for milk production (1984) then the conversion of price guarantees into aid per hectare (1992). Despite these reforms, the CAP continues to drain considerable sums: more than €50 billion in 2023, i.e. one third of the European budget.

Faced with climate change and its impact on biodiversity, the CAP has not been subject to the same level of reform as that of 1992 in response to market disruption. The response to the climate crisis has been a series of superficial measures, subjecting the payment of aids to increasing eco-conditionality and developing a "second pillar" covering aids unrelated to farming products. An additional layer has recently been added to the system with the so-called Farm to Fork scheme.

This has greatly complicated the old CAP, sometimes to the point of absurdity, without reforming it in depth. But behind the administrative complexity lies a more fundamental question. Like other European sectoral policies, the CAP needs to be redesigned for this new era of climate change.

Climate resilience, a driver of the agroecological transition

In order to bring about this in-depth change, we need to start with the problems facing farmers as a result of climate change. Successive reports of the IPCC have made this clear. Farming, forestry and fishing are the human activities most heavily impacted by global warming. These impacts are going to intensify over at least the next two to three decades in the most optimistic emissions reduction scenarios.

Contrary to popular misconception, the hyperspecialised and industrialised farming systems of northern countries are very vulnerable. In Canada, for example, the heatwave in 2021 caused a 40% drop in wheat production and a 60% drop in exports. This is almost the equivalent of the year's worth of Ukrainian wheat lost to the global market when Russia invaded Ukraine. In the European Union, cereal yields have been stagnating or declining for two decades now, despite farmers' high level of technical sophistication.

For agricultural producers, adaptation to climate change constitutes the first level of agroecological transformation. This transformation consists not in producing less but in producing differently, through techniques using biological diversity and the many areas of symbiosis it offers for more resilient and often more intensive production. Organic farming is only one of these methods. Soil protection, the maintenance of plant cover and the use of trees and animals as crop auxiliaries also constitute major developments in this shift towards regenerative and resilient farming systems.

In the vast majority of cases, the conversion of farming systems to agroecology makes it possible to significantly reduce net greenhouse gas emissions by limiting gross emissions and by storing more carbon in farmland. In other words, the methods used to adapt to climate change are the same needed to limit global warming.

Agroecology requires much more technical expertise of farmers than conventional systems. One condition for success is the redeployment of public research and, above all, farm advisory networks, previously focused on productivity objectives. From an economic point of view, this requires a redistribution of CAP support.

Environmental standards or remuneration of ecosystemic services?

The question of farmers' income was a major catalyst for the farmers' protests. In France, these protests again brought up the issue of guaranteed prices, a recurring demand by the Confédération Paysanne (the second-largest French farmers' union) and unexpectedly well supported, for Emmanuel Macron at least.

Guaranteed prices are socially unfair as they protect the largest producers by far the most. They encourage productivism and short-term profitability to the detriment of resilience and climate goals.

An alternative solution is to guarantee environmentally fair prices by redistributing farm subsidies, particularly from the CAP, in proportion to the services rendered by farmers thanks to agroecological practices. Experiments with payments for ecosystemic services and carbon offsetting can test the value of the positive externalities to be remunerated. Both have scope for improvement. If we could correctly price these values to guide the distribution of farming aid, billions of CAP funds would no longer appear as subsidies but rather as part of the remuneration payable to farmers for services rendered.

There is one area in which environmentally fair pricing would be particularly useful: phytosanitary products. The "Nodu" is a synthetic indicator used in France to measure the quantity of substances harmful for living organisms used on farms. This should be combined with pricing that remunerates practices that reduce the use of such substances. The Nodu would then no longer be a standard imposed by the authorities but a tool for rewarding virtuous agroecological practices. It could then be reintroduced, in simplified form, to replace the European HRI1 indicator, considered by the scientific community as being less relevant.

The protection of forest-based carbon sinks

When we emit 100 tonnes of CO2 into the atmosphere, 25 tonnes are absorbed by the oceans and just under 30 tonnes by plants, primarily thanks to forests. Protecting these carbon sinks is a major condition for the stabilisation of global warming in the medium and long term.

Worldwide, forest sinks are weakened by anthropic actions – deforestation – and by climate change feedbacks. Historically, Europe has been one of the largest areas of deforestation due to the extension of land given over to farming and livestock. The surface area of its forests is now growing again, mainly due to the decline of farming. On the other hand, the CO2 absorption capacity of its forests is affected by global warming. This has fallen by almost a third in the last decade.

A small part of this erosion is due to increased pressure on forests for the production of fuelwood. Mainly, though, it is due to climate change feedbacks: droughts and heatwaves stunting trees' growth, the rise in invasive species increasing their rate of mortality and more intense extreme weather events (storms and forest fires).

Protecting forest sinks is a long-term matter as it involves adapting the composition of forests to the climate conditions of the future. Improving forest resilience generally means making less use of monoculture forestry offering rapid yields, planting a diverse range of species resistant to climate stress and paying greater attention to water cycles.

Global warming and "water scarcity"

Global warming is disrupting how societies function through its impact on the water cycle. The European measures set up since the Water Framework Directive adopted in 2000, supplemented by more targeted texts such as those concerning nitrates and environmental quality standards, do not take the scale of these impacts into account. As for agriculture and forestry, the challenges of climate change and biodiversity will require an overhaul of these sectoral measures.

One difficulty is that the players involved often misunderstand these impacts, believing that global warming will increase the scarcity of water. Taking this into account therefore means reinforcing existing regulations to combat waste and promote water sobriety. The reality is more complex, however. Global warming in no way increases the scarcity of water. On the contrary, it intensifies the water cycle by increasing the total amount of precipitation while disrupting its distribution in space and time.

Within the European Union, the impacts of this will vary considerably. Southern Europe will experience greater hydric stress and increasingly frequent devastating episodes of intense precipitation, while in northern Europe, the total amount of precipitation will increase, as will its irregularity. The water policy is going to have to adapt to many changes in the risk mapping, not all of which can be predicted with certainty.

The new challenges facing the water policy clearly reveal the interdependence between sectoral approaches and the global climate and biodiversity challenges. The winning strategies will be those that make positive use of this interdependence. For example, storing water in farmland thanks to agroecology can help to combat the risk of a hydric deficit and store carbon in the soil. Used in river basins, agroecology limits the risk of flooding and helps purify fresh water while avoiding costly investment upstream.